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American Dyestuff Reporter was founded in 1917 and the Textile Colorist and Converter (formerly Textile Colorist) was incorporated with it in January, 1949. Published every other Monday by the HOWES PUBLISHING COMPANY, INC., 44 E. 23rd Street, New York 10, N. Y. C. R. Howes, President; Ernest J. Finan, Executive Vice-President; Norman A. Johnson, Vice-President & Treasurer; Myron D. Reeser, Vice-President; C. Essenbreis, Secretary.

Telephone SPring 7-9364

AMERICAN
DYESTUFF REPORTER

Devoted to Textile Chemistry
BLEACHING • DYEING • PRINTING • FINISHING

AATCC CONVENTION ISSUE

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tomorrow's colors today

In this close-to-the-market era, service is the key to sales at every step from the grey goods to the retail floor.

Appreciating the unusual demands on dyers and printers, we have been steadily stepping up our services by adding many attractive new colors to our line, by expanding color research and application laboratory personnel and facilities, by accelerating color card and technical bulletin service, by re-aligning branch office services and balancing local warehouse stocks.

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Proceedings of the

American Association of Textile Chemists and Colorists

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Editor of Proceedings: Carl Z Draves, 30 Lahey St, New Hyde Park, N Y

AUGUST 30, 1954

33RD NATIONAL CONVENTION ☆ 1954

And The South's First Textile Wet Processing Exhibit

SPONSORED BY THE SOUTHERN REGION ★ THE ATLANTA BILTMORE ★ ATLANTA, GEORGIA ★ SEPTEMBER 15, 16, 17, 18

The Atlanta Biltmore, Headquarters for the 33rd National Convention.

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An Invitation
FROM THE PRESIDENT

J ROBERT BONNAR
President
(General Dyestuff Co)

DEAR AATCC Member:
As president of your Association, I have the pleasure of inviting you to our 33rd Annual Convention under the sponsorship of the Southern Region.

Each year these meetings allow us the privilege of seeing the effects of progress "on the move" and gaining invaluable technical knowledge by presenting us with the opportunity to visit the various exhibits showing new and improved methods and equipment and attend the many fine technical sessions. There is also the additional opportunity of meeting and discussing problems with other people interested and active in the field. It is impossible to overestimate the importance of these conventions to the men in the industry, an opinion supported by the increasing number of people attending.

Besides the technical aspects of the convention, we have the entertainment, and this year "something new has been added" —a football game between Georgia Tech and Tulane. Nor have the ladies been forgotten, as special events have been arranged for them.

This promises to be a "bang-up" convention—I'm sure you'll find it both informative and enjoyable.

Yours truly,
J ROBERT BONNAR
President

An Invitation
FROM THE VICE PRESIDENT
SOUTHERN REGION

SAMUEL L HAYES
Vice President
(Ciba Co, Inc)

AATCC Members, Your Families, and Guests:
As vice-president representing the sponsoring sections, may I extend to you a personal invitation to attend the 33rd Annual Convention.

Russell Gill and "Rip" Wear and their committee chairmen have things well in hand and are doing an outstanding job.

"Gillie" Smith promises ample and comfortable hotel accommodations, although not all of them in the headquarters hotel.

Walter Scott has lined up a diversified, interesting and instructive technical program.

Bill Griffin says "leave the ladies to me" and that is sufficient.

Johnny Sweitzer is proud about the entertainment features, which will be unique. Do not forget the football game on Saturday between Georgia Tech and Tulane!

John Cook claims the exhibits this year will be better than ever and easily accessible.

Adam Fisher, Jr, and his reception committee are waiting to greet you.

"Hail, friend, we ask not who thou art
If friend, we greet thee hand and heart
If stranger, such no longer be
If foe, our love shall conquer thee"

This portrays the spirit behind this year's convention and in this spirit the four Southern Sections extend to you, your families and your guests a most cordial invitation to attend.

Come early, stay late and have a good time.

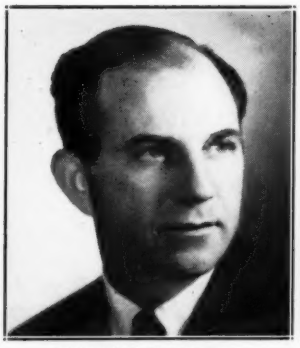
May I have the pleasure of seeing you in Atlanta in September?

SAMUEL L HAYES
Vice-President, Southern Region

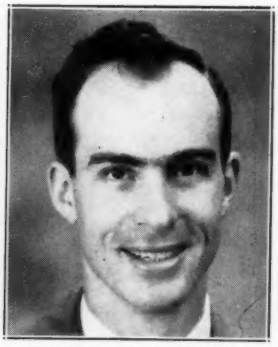
Greetings

FROM THE CHAIRMEN OF THE SPONSORING SECTIONS

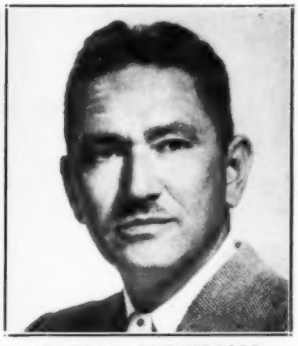
PAUL O ANDERSON
South Central Section



MILTON HARRIS
Washington Section



T HOWARD McCAMY
Southeastern Section



HENRY A RUTHERFORD
Piedmont Section

SOUTH CENTRAL SECTION

ON behalf of the South Central Section, I should like to welcome you to the 33rd National Convention of the AATCC, the South's first wet finishing exhibition. I sincerely hope that you will find it worthwhile and enjoyable.

PAUL O ANDERSON
Chairman, South Central Section

WASHINGTON SECTION

THE newly formed Washington Section is proud to join its fellow Sections of the Southern Region of the AATCC in extending a most cordial invitation to you to attend the 33rd National Convention.

Your convention committees have worked long and vigorously to give you an outstanding technical program as well as opportunities for meeting your colleagues under most favorable and relaxing circumstances.

The AATCC has played an important role in bringing together the textile and chemical industries, two of the greatest the world has ever known. Indeed, every AATCC Convention constitutes a milestone in textile and chemical history, and we hope that you will join us in making the 1954 Convention one of the most outstanding ever.

MILTON HARRIS
Chairman, Washington Section

SOUTHEASTERN SECTION

WE of the Southeastern Section are honored to be among the hosts to the National Convention in Atlanta this September. We are more honored that we will have with us the people who have been so gracious and hospitable to our members who have attended Conventions held in the other Sections.

We are planning to give you a little of the "Ole South," and we hope you can be with us to enjoy it.

A cordial invitation is extended to you, as we say— *"Welcome South, Brother."*

T HOWARD McCAMY
Chairman, Southeastern Section

PIEDMONT SECTION

THE Piedmont Section extends a most cordial welcome and greeting to every member and guest who has the opportunity of attending the 33rd National Convention.

The Piedmont Section has served as host to the National Convention twice (in 1926 at Charlotte, N C, and in 1932 at Greensboro, N C), and again as co-host with the Southeastern and South Central Sections at the 1948 Convention in Augusta, Ga. We look forward with great pleasure to the privilege of once again being co-host this year.

General Chairman Russell Gill has worked very effectively with the committee chairmen of the four Southern Sections to make this convention one long to be remembered by those who attend. The South's first textile-wet-processing exhibit will be of great interest to textile scientists and executives throughout the nation. The Technical Program is being arranged to accommodate a wide diversity of interest, but the social side of the convention is not being neglected. A strictly Southern-style entertainment program is being planned for all our members and guests and their ladies.

We hope that you have already made your plans to attend the 33rd National Convention, but if you have not, that you will do so, and that we will have the pleasure of seeing you again in Atlanta at the most elaborate and comprehensive convention in our Association's history.

HENRY A RUTHERFORD
Chairman, Piedmont Section

Program

1954 AATCC NATIONAL CONVENTION

SPONSORED BY THE SOUTHERN REGION: THE ATLANTA BILTMORE: ATLANTA, GA.

September 15, 16, 17 and 18

All functions at the Atlanta Biltmore except where noted

Wednesday, September 15 Exhibitors' Day

9:00 am to 9:00 pm—EXHIBITS—Exhibition Hall

9:00 am to 5:00 pm — REGISTRATION — Crystal Lounge

10:00 am — NATIONAL COUNCIL MEETING — Room 14

9:00 am to 4:30 pm — LADIES' HEADQUARTERS —Room 10

2:00 pm to 5:00 pm — PERSONNEL SERVICE — Room 7

2:00 pm to 5:00 pm — TECHNICAL MEETING — Ballroom

Symposium: "Preparation and Dyeing of Textiles"

Presiding: Walter M Scott, U S Department of Agriculture

"Desizing Procedures in Relation to Enzyme Evaluation"—Hector C Borghetty and John T Taylor, Rohm & Haas Co

"Sources of Color in Cotton"—Simon A Simon and Carlyle Harmon, Chicopee Manufacturing Corp

"Some Notes on the Technology of the Single-Stage Continuous Bleaching Process"—Thomas E Bell, H D Terhune and M H Rowe, E I du Pont de Nemours & Co, Inc

"Spun Colored Fibers"—Geoffrey V Lund, Courtaulds (Alabama) Inc

"A Progress Report on the Bond Processing Machine"—Karl Ruppenthal, Pittsburgh Coke & Chemical Co

4:30 pm to 6 pm—LADIES' WELCOME PARTY—Empire Room

5:00 p m—ANNUAL BUSINESS MEETING—Ballroom

Thursday, September 16 Corporate Members' Day

9:00 am to 6:00 pm—EXHIBITS—Exhibition Hall

9:00 am to 6:00 pm — REGISTRATION — Crystal Lounge

9:00 am to 11:45 am — TECHNICAL MEETING — Empire Room

Symposium: "Dyeing of Textiles"

Presiding: Kenneth S Campbell, North Carolina State College

"The Influence of Temperature on Vat Dye Application"—Maurice R Fox, Imperial Chemical Industries, Ltd

"A Study of Carriers in Dyeing Dacron Polyester Fiber"—Charles L Zimmerman, J M Mecco and A J Carlino, American Cyanamid Co

"Acrilan Dyeing"—Walter H Hindle, Chemstrand Corp

9:00 am to 11:30 am—LADIES' HEADQUARTERS —Room 10

9:00 am to 11:30 am — PERSONNEL SERVICE — Room 7

10:30 am — RECEPTION, CORPORATE MEMBER GUESTS—Room 14

12:00 noon—OLNEY MEDAL AWARD LUNCHEON —Ballroom and Crystal Lounge

12:30 pm — LADIES' LUNCHEON — Capital City Country Club

2:30 pm to 5:30 pm — PERSONNEL SERVICE — Room 7

2:30 pm to 5:30 pm — TECHNICAL MEETING — Empire Room

Symposium: "Finishing of Textiles"

Presiding: Leonard Smith, National Cotton Council

"Application of THPC Flame-Retardant Process to Cotton Fabrics"—John D Guthrie, George L Drake, Jr and Wilson A Reeves, Southern Utilization Research Branch, U S Department of Agriculture

"Wrinkle-Resistant Treatment of Cotton"—Theodore F Cooke, American Cyanamid Co

"Nitrile Latices—A New Concept in Textile Finishing"—Neil H Sherwood, B F Goodrich Chemical Co

"Antistatic Action vs Molecular Structure"—Geoffrey R Ward, General Aniline & Film Corp

"Finishing of Fabrics from Synthetic Fibers"—John H Andreen, E I du Pont de Nemours & Co, Inc

Friday, September 17

9:00 am to 6:00 pm—EXHIBITS—Exhibition Hall

9:00 am to 12:00 noon—REGISTRATION—Crystal Lounge

9:00 am to 3:00 pm — PERSONNEL SERVICE — Room 7

9:00 am to 3:00 pm — LADIES' HEADQUARTERS —Room 10

9:00 am to 12:00 noon—TECHNICAL MEETING —Empire Room

Symposium: "Waste Disposal Problems of Southern Mills"

Presiding: R Hobart Souther, Cone Mills Corp

"Cotton Slashing with Synthetic Compounds as a Means Toward Pollution Abatement"—Duane W Snyder, Crompton-Shenandoah Co

"Treatment of Sulfur, Vat and Other Dye Wastes with Carbon Dioxide and Flue Gases"—Harold R Murdock, Harold R Murdock Associates

"Relation of Federal Stream Pollution Laws to Industry"—Lewis A Young, U S Public Health Service

"Biological Treatment of Highly Alkaline Textile Mill Waste-Sewage Mixtures"—T A Alspaugh and R H Souther, Cone Mills

"Studies on Textile Waste Disposal"—D F Smallhorst, Texas State Department of Health

"Bleachery and Dyehouse Waste Studies"—John L Brown, Jr, Cannon Mills Co

Panelists: W R Steele, Semet-Solvay Div, Allied Chemical & Dye Corp; W H Weir, Georgia State Dept of Health; E C Hubbard, N C Stream Sanitation Committee; G A Rhame, Water Pollution Control Authority, South Carolina State Board of Health; P Theel, Philadelphia Textile Institute; and E A Leonard Textile Industry Representative, National Technical Task Committee on Industrial Wastes, Alexander Smith, Inc

9:00 am to 12:00 noon — TECHNICAL MEETING —Pompeian Room

Symposium: "Printing of Textiles"

Presiding: Raphael E Rupp, Southern Dyestuff Corp

"Fast Color Printing"—Raymond W Jacoby, Ciba Co, Inc

"New Developments in Vat Dye Printing"—Arthur K Saville, E I du Pont de Nemours & Co, Inc

"The Use of Resins in Producing Colored Three-Dimensional Styles on Cotton Fabrics"—Robert H Phillips and Edward W Lawrence, Cranston Print Works

"Printing and Related Operations on Glass Decorative Fabrics"—Remus F Caroselli, Owens-Corning Fiberglas Corp

12:15 pm—ALUMNI LUNCHEON—Ballroom

Afternoon—SOCIAL ACTIVITIES

Golf Tournament—Men Only—Standard Town and Country Club

Sightseeing Tours—Cyclorama, Georgia Tech, Stone Mountain, Residential Districts

Saturday, September 18

9:00 am to 2:00 pm — REGISTRATION—Crystal Lounge

9:00 am to 12:00 noon — LADIES' HEADQUARTERS—Room 10

9:00 am to 12 noon — INTERSECTIONAL CONTEST—Empire Room

Presiding: Frank J O'Neil, Pacific Mills

"Factors Affecting Tint Removal from Staple Fibers"—Philadelphia Section

"A Study of the Destructive Action of Home Gas-Fired Dryers on Some Dyestuffs"—Mid-West Section

"A Search for Factors Influencing the Crockfastness of Cotton"—New York Section

"Effect of Various Softeners on a Resin-Treated Viscose Rayon Fabric"—Piedmont Section

"Soiling of Fabrics in Contrast with the Skin"—Washington Section

"Studies on the Acceptability and Perceptability of Fading"—Northern New England Section

"An Investigation of the Properties of Cyanoethylated Cotton"—Rhode Island Section

"Modification of Urea-Formaldehyde and Melamine-Formaldehyde Crease-Resistant Finishes with Nitrile Latices"—Southeastern Section

12:30 pm to 2:00 pm — FOOTBALL BUFFET LUNCHEON—Exhibition Hall

2:30 pm—FOOTBALL GAME—Grant Field Georgia Tech vs Tulane

5:00 pm to 7 pm — REGISTRATION — Crystal Lounge

7:00 pm—ANNUAL BANQUET—Exhibition Hall

Milton Harris—*Toastmaster*
J Robert Bonnar—*President, AATCC*
Percival Theel—*Presentation of ADR Award*
Warren Foster, Coca-Cola Co—*Guest Speaker*
Entertainment

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Vice President (Western Region).....JOSEPH H JONES, Phoenix Dye Works, 1963 Southport Ave, Chicago 14, Ill

Vice President (New England Region)...GEORGE O LINBERG, Synthron, Inc, Ashton, R I

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Assistant Secretary.....RICHARD R FREY, Lowell Technological Institute, Lowell, Mass

Treasurer.....ALBERT E SAMPSON, National Aniline Division, Allied Chemical & Dye Corp, 150 Causeway St, Boston 14, Mass

Founder.....LOUIS A OLNEY (Deceased)

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Director of Research....HAROLD W STIEGLER, Lowell Technological Institute, Lowell, Mass

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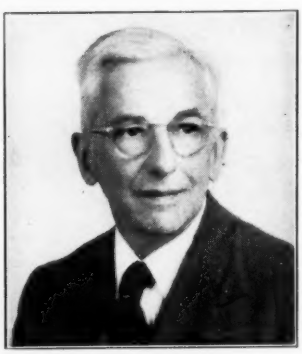
(Bradford Dyeing Assoc)

JOSEPH H JONES
Vice President
(Phoenix Dye Works)

GEORGE O LINBERG
Vice President
(Synthron Inc)



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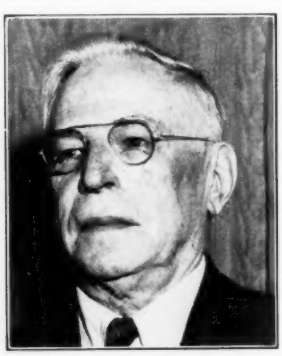
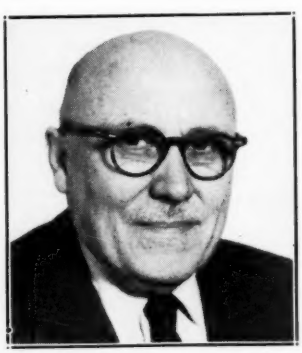
Secretary
(AATCC)

RICHARD R FREY
Assistant Secretary
(AATCC)

ALBERT E SAMPSON
Treasurer
(National Aniline Div)



WILLIAM R MOORHOUSE
Treasurer Emeritus



LEONARD S LITTLE
Chairman, Executive Committee on Research
(Consultant)

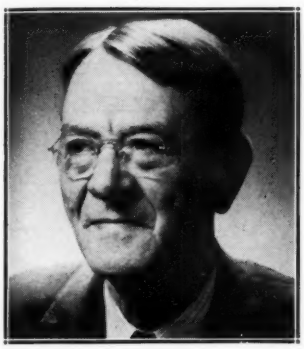
HAROLD W STIEGLER
Director of Research
(AATCC)

PAST PRESIDENTS

(An asterisk follows the names of the deceased)

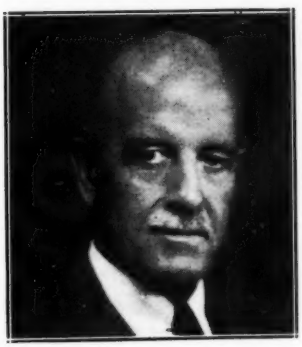
LOUIS A OLNEY* (Founder)
1922-1927

ELVIN H KILLHEFFER
1928-1930



P J WOOD
1931-1932

ROBERT E ROSE*
1933-1935

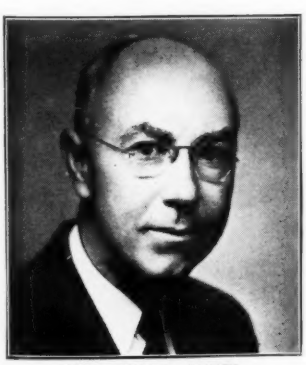


WILLIAM H CADY
1936-1937

ALBAN EAVENSON
1938-1939

CARL Z DRAVES
1940-1941

THOMAS R SMITH
1942-1943



WILLIAM D APPEL
1944-1946

HENRY F HERRMANN
1947-1949

C NORRIS RABOLD
1950-1952

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Thomas J Seery
Department of Navy

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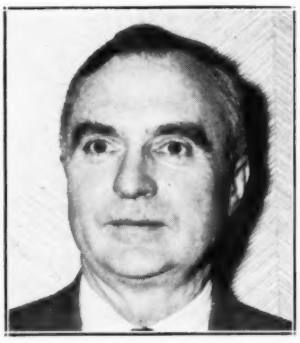

JOHN C COOK
Chairman, Exhibits

Exhibits

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Eric W Camp
National Aniline Div

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Ciba Co, Inc

Walter F Fancourt, III
W F Fancourt Co

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Southern Sizing Co

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Southern Sizing Co

Assistant Chairman

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C RUSSELL GILL
General Convention Chairman

Dining

JOE T BOHANNON, JR, *Chairman*
American Aniline Products, Inc

W A HAINES, *Assistant Chairman*
Hercules Powder Co

J F Carey
Mathieson Chemical Corp

M M McCann
Warwick Chemical Co

S J Martin, Jr
Marler Chemical Co

Lindsay Wyman
Nova Chemical Co

Thomas J Seery
Department of Navy

PAUL G WEAR
Assistant Convention Chairman

JOE T BOHANNON
Chairman, Dining

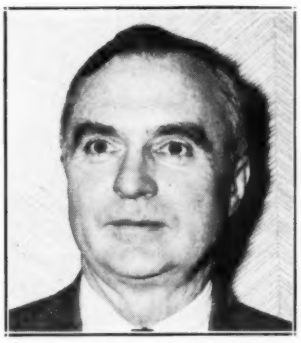
Entertainment

JOHN O SWEITZER, *Chairman*
Scholler Bros, Inc

GEORGE DOZIER, *Asst Chairman*
Southern Dyestuff Co

Bill Kennedy
Arnold, Hoffman & Co

Warren E Rixon
Carbide and Carbon Chemical Co



JOHN C COOK
Chairman, Exhibits

Exhibits

JOHN C COOK, *Chairman*
W R C Smith Publishing Co

Roger W Moister
Wyandotte Chemicals Corp

Richard C Davis
Armour & Co

Warren K Cooley
Caled Products Company

JOHN O SWEITZER
Chairman, Entertainment

Finance

JAMES W SWINEY, *Chairman*
Fulton Bag & Cotton Mills

FRANCIS S WEBSTER, JR,
Asst Chairman
F H Ross and Co, Inc

Herbert A Ehrman
U S Dept of Commerce

JAMES W SWINEY
Chairman, Finance

Louis R Mizell
Harris Research Laboratories

J C Whitt
Standard Coosa Thatcher Co

Clement O Stevenson
Ciba Co Inc

Ladies

WILLIAM B GRIFFIN, *Chairman*
Dexter Chemical Corp

T MAXWELL FERGUSON,
Asst Chairman
National Aniline Div

Mrs Paul O Anderson
Mrs John K Boykin
Mrs John C Cook
Mrs George L Dozier
Mrs T Max Ferguson
Mrs C Russell Gill
Mrs William B Griffin
Mrs Samuel L Hayes
Mrs Milton Harris
Mrs A Kempton Haynes
Mrs W A Haines
Mrs David Meriwether
Mrs T Howard McCamy
Mrs Curt Mueller
Mrs C Norris Rabold
Mrs Edward R Ravenel
Mrs Henry A Rutherford
Mrs Paul V Seydel
Mrs H Gillespie Smith
Mrs Thomas R Smith
Mrs James W Swiney
Mrs Paul G Wear
Mrs Francis S Webster, Jr
Mrs Laurie E Whittelsey

Membership

C NORRIS RABOLD, *Chairman*
Erwin Mills, Inc

ALBERT E JOHNSON,
Corporate Membership
National Institute of Drycleaning

George P Fulton
National Institute of Drycleaning

William B Amos
Stein, Hall & Co

Jack Anderson
Peerless Textiles, Inc

Herman J Jordan, Jr
Piedmont Processing Co

Printing

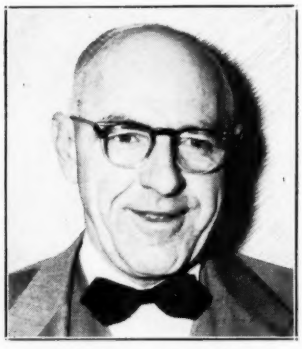
JUNIUS M SMITH, *Chairman*
Clark Publishing Co

Robert D Sloan
E I du Pont de Nemours & Co, Inc

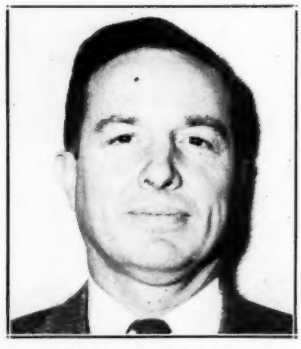
James T McAden, Jr
Clark Publishing Co

WILLIAM B GRIFFIN
Chairman, Ladies

JUNIUS M SMITH
Chairman, Printing



ARTHUR R THOMPSON
Chairman, Publicity



ADAM FISCHER, JR
Chairman, Reception

Publicity

ARTHUR R THOMPSON, *Chairman*
Ciba Co, Inc

John C Cook
W R C Smith Publishing Co

Glenn R Bellamy
Ciba Co, Inc

John C Fonville
W R C Smith Publishing Co

Nelson F Getchell
National Cotton Council

Reception

ADAM FISHER, JR, *Chairman*
E I du Pont de Nemours & Co, Inc

M B EUBANKS, JR, *Asst Chairman*
Riegel Textile Corp

Jack Anderson
Peerless Textiles, Inc

*George L Baxter
Bradford Dyeing Assoc

Francis Burr
Burlington Mills Corp

Charlie K Cobb
Canton Cotton Mills

E A Feimster
Fairforest Co

George E Fogle, Jr
Lowell Bleachery South

Norton C Foster
Dow Corning Corp

A Henry Gaede
Laurel Soap Mfg Co

Glenn Greathouse
National Research Council

*Samuel L Hayes
Ciba Co, Inc

*Joseph H Jones
Phoenix Dye Works

*George O Linberg
Synthron, Inc

William S McNab
Mac Chemical Co

Curt Mueller
Bibb Manufacturing Co

Francis X Nerney
Becco Sales Corp

Harold B Peterson
Virginia Smelting Co

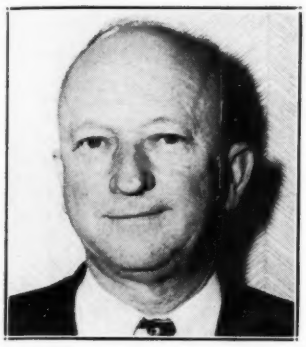
J W Richardson
Russell Mfg Co

Marc V Shivers
Thomaston Mills

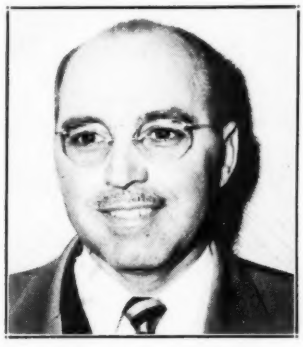
J H Stradley
E I du Pont de Nemours & Co, Inc

Howard M Waddle
West Point Mfg Co

* Honorary



H GILLESPIE SMITH
Chairman, Reservations



A KEMPTON HAYNES
Chairman, Registration

WYSS L BARKER
Chairman, Transportation

Reservations

H GILLESPIE SMITH, *Chairman*
American Cyanamid Co

Robert N Foster
Monsanto Chemical Co

Robert H Smith
High Point Chemical Mfg Co

Lawrence L Heffner
Wm E Hooper & Sons Co

Mearl A Kise
Virginia Smelting Co

W G Agnew
Dixie Mercerizing Co

Glenn Bellamy
Ciba Co, Inc

Wm E Fayssoux
Royce Chemical Co

E R Ravenel
Morton Salt Co

Registration

A KEMPTON HAYNES, *Chairman*
Rohm & Haas Co, Inc

JOHN K BOYKIN, *Asst Chairman*
Allied Chemical & Dye Corp

DAVE MERIWETHER, *Asst Chairman*
Seydell-Woolley & Co

William B Amos
Stein, Hall & Co

William B Blackman, Jr
Sandoz Chemical Works, Inc

W O Bozeman, Jr
Russell Manufacturing Co

A Moody Burt
Nova Chemical Corp

Willard A Colby, Jr
Emery Industries, Inc

W Fred Crayton
E I du Pont de Nemours & Co, Inc

G C Davis
Monsanto Chemical Co

William T Evans
Burlington Mills Corp

Robert K Federal
General Dyestuff Co

J T Hall, Jr
F H Ross & Co

King D Henry
Textile Aniline & Chemical Co

James H Holmes
Nopco Chemical Co

Robert L Horney
Ciba Co, Inc

Walter H Jackson
Allied Chemical & Dye Corp

Nesbit Johnston
Geigy Co, Inc

Joseph Lindsay, Jr
Clemson College

E T McIlwain
Interchemical Corp

Roy L Smart, Jr
Mathieson Chemical Corp

Charles O Starnes
American Aniline Products, Inc

Lowell A Shive
Arnold, Hoffman & Co, Inc

Technical

WALTER M SCOTT, *Chairman*
U S Department of Agriculture

Leonard Smith
National Cotton Council

R Hobart Souther
Cone Mills Corp

Kenneth S Campbell
North Carolina State College

Raphael E Rupp
Southern Dyestuff Corp

James L Taylor
Georgia Institute of Technology

William F Luther
Dixie Mercerizing Co

J C Whitt
Standard Coosa Thatcher Co

Transportation

WYSS L BARKER, *Chairman*
National Aniline Div

W T Kennedy
Pepperell Mfg Co

L A Burroughs
E I du Pont de Nemours & Co, Inc

Donald H Gunther
Burkart-Schier Chemical Co

Howard A Smith
Hosiery Processing Co

Ed Estes
Stein, Hall & Co

Henry A Cathey
National Aniline Div

Herbert A Ehrman
U S Dept of Commerce

Nelson F Getchell
National Cotton Council

Regional Advisory

HENRY A RUTHERFORD, *Piedmont*
North Carolina State College

T HOWARD McCAMY, *Southeastern*
Pepperell Mfg Co

PAUL O ANDERSON, *South Central*
Peerless Woolen Mills

MILTON HARRIS, *Washington*
Harris Research Laboratories

Your Hosts for the 33rd National Convention

THE SOUTHERN SECTIONS

PIEDMONT • SOUTH CENTRAL • SOUTHEASTERN • WASHINGTON

A R THOMPSON
Ciba Co, Inc

THE four AATCC Sections comprising the Southern Region are happy to be your hosts at the 33rd National Convention, which will feature among its "firsts" the South's first textile-wet-processing exhibit, the Association's first four-day convention, and the first time that a major football game has been part of the entertainment program.

When you last met with us in the South, in October of 1948, there were three Southern Sections serving as your hosts. This year we will have the entire South, including the new section in Washington, D C, acting as hosts for our rapidly growing organization. It seems fitting, therefore, that a condensed history of the growth of each of the four Southern Sections should be presented to acquaint the membership with the background of the host sections.

The first Southern group of chemists and colorists and those connected with allied industries met in Greenville, S C, on Saturday, October 23, 1924 at the Imperial Hotel. Elvin H Killheffer represented the National Council of the AATCC and assisted in forming the first section of the AATCC south of Philadelphia, Pa. The section thus formed was known officially as the Southern Section of the AATCC and it included all territory south of Washington, D C, without any other boundary. The following were present at this inaugural meeting:

Brown Mahon	Leslie N Hood
John H Carey	Charles E Mullin
Peter F O'Neill	A R Thompson
J Bayard Smith	Charles H Stone
J Gordon Stott, Jr	H L Siever
A W Mungall	Charles S Doggett
Tom Taylor	George I Purvis
R W Arrington	John David Hunter
T Gordon Mungall	B S Phetteplace
N R Vieira	Joe E Moore
Harry W Ormand	T Edgar White
M T Johnson	Paul Bolen
W D Shields	Pat L Sullivan
W M Hunt	Richard Ackerstrom

The following officers were elected:

Chairman — Brown Mahon
Vice Chairman — John H Carey
Treasurer — Peter F O'Neill
Secretary — Harry W Ormand
Sectional Committee — N R Vieira, H L Siever, Charles H Stone, A W Mungall

Meetings were held approximately four times a year in different cities, including Greenville, S C, Spartanburg, S C, Charlotte, N C, and Greensboro, N C, because of the distance separating the members in the early years of the Southern Section. Some came from as far as Chattanooga, Knoxville, Kingsport, and other cities in Tennessee, as well as from points in Georgia and Alabama. The quarterly meetings of the Southern Section were quite outstanding in those days, and they required of many of those attending, quite a considerable outlay of time and money.

The Southern Section continued to grow in strength and numbers to a point where, in 1926, it was in a position to serve as host for the National Convention in Charlotte, N C.

FORMATION OF THE SOUTH CENTRAL SECTION ———The great distance the Tennessee members had to travel to attend meetings in the Carolinas, their increased interest in the affairs of AATCC, and their desire to have a section of their own ultimately prompted the division of the Southern Section into the Piedmont and South Central Sections. Dr Killheffer, who at the time was a vice president in the national organization, met with a group in Chattanooga to explain the objectives of AATCC, and to assist in forming a new section covering Tennessee, northern Georgia, and Alabama. Peter O'Neill, a Charter Member of AATCC and the first treasurer of the Southern Section, was delegated to promote the formation of the new section, and on April 30, 1927 the South Central Section was organized at the Hotel Patten, Chattanooga, Tenn. Mr O'Neill served as temporary chairman and later was elected chairman. Other elected officers included John D Murray, *vice-chairman,* J Bayard Smith, *secretary,* and H A Rogers, *treasurer.* The Southern Section, from which the South Central Section emerged, was thereafter known as the Piedmont Section.

The South Central Section at the time of its formation had only 43 Senior Members and 6 Junior Members, but what it lacked in numbers it more than made up in enthusiasm. A fifty percent increase in its membership during the first four years laid the groundwork for the formation of a third section in the South.

FORMATION OF THE SOUTHEASTERN SECTION ———A small group of men met at the Textile School of the Georgia Institute of Technology on May 9, 1931, to discuss the formation of a new section, which was to take a very active part in the affairs of AATCC and add great strength to the Southern Sections already formed.

A committee composed of C B Ordway, Alabama Polytechnic Institute, Auburn, Ala; M T Johnson, Hillside Cotton Mills, LaGrange, Ga; C A Jones, Georgia Institute of Technology, Atlanta, Ga; Wycliff C Jackson, Lowell Bleachery South, Griffin, Ga; E A Feimster, Jr, Fairforest Company, Eagle & Phenix Division, Columbus, Ga; and W F Christman, Russell Manufacturing Company, Alexander City, Ala, were appointed by H S Busby of the Textile Department of Georgia Tech to investigate the wisdom of forming a new organization of chemists, dyers, finishers, salesmen, and others interested in the application of dyes and chemicals in the textile industry or affiliating themselves with the AATCC. This group, meeting on June 20, 1931 at the Ralston Hotel in Columbus, Ga, formed a temporary organization and voted to affiliate with the AATCC as the Southeastern Section. The following officers were elected: E A Feimster, Jr, *chairman;* Roddy A Field, Jr, *treasurer;* and Charles B Ordway, *secretary.*

FORMATION OF THE WASHINGTON SECTION——The second youngest of the AATCC Sections, the Washington Section, was organized on January 9, 1953 with Walter M Scott, a Charter Member of AATCC, acting as secretary pro tem. The following officers were elected at the first meeting, and have been re-elected for a second term: Milton Harris, *chairman;* Henry D Barker, *vice chairman;* George S Buck, Jr, *secretary;* Herbert A Ehrman, *treasurer;* and Walter M Scott, *councilor.*

The Washington Section draws its membership of about 130 from an area which includes the District of Columbia, Maryland, and that portion of Virginia north of Richmond. The Washington Section has relatively few textile manufacturing units but it includes prominent research facilities and its membership includes those employed in several outstanding private and government laboratories. Six technical meetings were held during its first year.

FRATERNITY OF THE SOUTHERN SECTIONS——The four Southern Sections are truly a body of men banded together by common interests, and although they have their separate groups and officers, and meet in different parts of the South, there is a noticeable display of unity and pursuit of a common purpose to increase the knowledge of the application of dyes and chemicals in the textile industry. They have helped to encourage, in a practical way, research work on chemical processes and materials of importance to the textile industry, and have established channels for the interchange of professional knowledge among their members. Thus, they have carried out the true objects of the American Association of Textile Chemists and Colorists.

PAST CHAIRMEN——The following have served as past Chairmen of the Piedmont, South Central and Southeastern Sections:

PIEDMONT SECTION

Brown Mahon	Oct 1924-Jan	1925
Harold M Chase	Jan 1925-Oct	1925
L S Little	1925	1926
C S Doggett	1926	1927
H A Barnes	1927	1928
Charles E Mullin	1928	1929
R M Mitchell	1929	1930
S L Hayes	1930	1931
J L Crist	1931	1932
A R Thompson, Jr	1932	1933
George P Feindel	1933	1934
Paul F Haddock	1934	1935
Chester L Eddy	1935	1936
T R Smith	1936	1937
R E Rupp	1937	1938
A Henry Gaede	1938	1939
H E Hiefer	1939	1940
Louis M Boyd	1940	1941
T W Church, Jr	1941	1942
C Norris Rabold	1942	1943
Henry B Dixon	1943	1944
Sidney M Cone	1944	1945
Leland G Atkins	1945	1946
Wyss L Barker	1946	1947
John B Neely	1947	1948
P E Smith	1948	1949
R H Smith	1949	1950
Ed Briggs	1950	1951
R H Souther	1951	1952
M M McCann	1952	1953

SOUTH CENTRAL SECTION

P F O'Neill	1928	1929
L L Bamberger	1929	1930
R S Wheller	1930	1932
Noel D White	1932	1933
Harold Schroeder	1933	1936
Walter E Hadley	1936	1938
Nestor Groteleuschen	1938	1940
Fletcher L Kibler	1940	1942
Jack Anderson	1942	1944
Homer Whelchel	1944	1945
Frank F Myers	1945	1946
Clyde J Horne	1946	1947
Jack Anderson	1947	1948
Raymond B Seymour	1948	1949
Wilbur K Newman	1949	1950
Joseph H O'Neill	1950	1951
William G Agnew	1951	1952
Howard P Loveless	1952	1953
Everett E Burgner, Jr	1953	1954

SOUTHEASTERN SECTION

E A Feimster, Jr	1931	1933
Charles B Ordway	1933	1934
C A Jones	1934	1936
E A Feimster, Jr	1936	1938
Robert W Philip	1938	1940
Perrin N Collier	1940	1942
Robert J McCamy	1942	1943
John P Harrison	1943	1944
Oliver G Edwards	1944	1946
A Kempton Haynes	1946	1948
C Russell Gill	1948	1950
H Gillespie Smith	1950	1952
S Jack Davis	1952	1953
T Howard McCamy	1953	1954

The following are now serving as officers of their respective Sections:

	Piedmont	*South Central*
Chairman:	Henry A Rutherford	Paul O Anderson
Vice-Chairman:	Herman J Jordan, Jr	Joe T Bohannon, Jr
Secretary:	Clarence Hooper	W F Luther
Treasurer:	Clement O Stevenson	J C Whitt
Councilors:	Joseph Lindsey, Jr	Joseph D Mosheim
	Raphael Rupp	
	R Hobart Souther	
	Harley Y Jennings	
	M M McCann	

	Southeastern	*Washington*
Chairman:	T Howard McCamy	Milton Harris
Vice-Chairman:	W B Griffin	Henry D Barker
Secretary:	John C Cook	George Buck, Jr
Treasurer:	J W Swiney	Herbert A Ehrman
Councilors:	S Jack Davis	Walter M Scott
	H Gillespie Smith	

(Concluded on Page P577)

The South's First Textile Wet Processing Exhibit

THE feature of the 1954 National Convention in Atlanta will be "The South's First Textile Wet Processing Exhibit". Sixty-three companies will exhibit their products in addition to which there will be an AATCC research exhibit and an AATCC intersectional contest exhibit. Shown will be the latest developments in dyestuffs, chemicals, testing methods, fabrics, fibers, instruments, machinery and laboratory equipment.

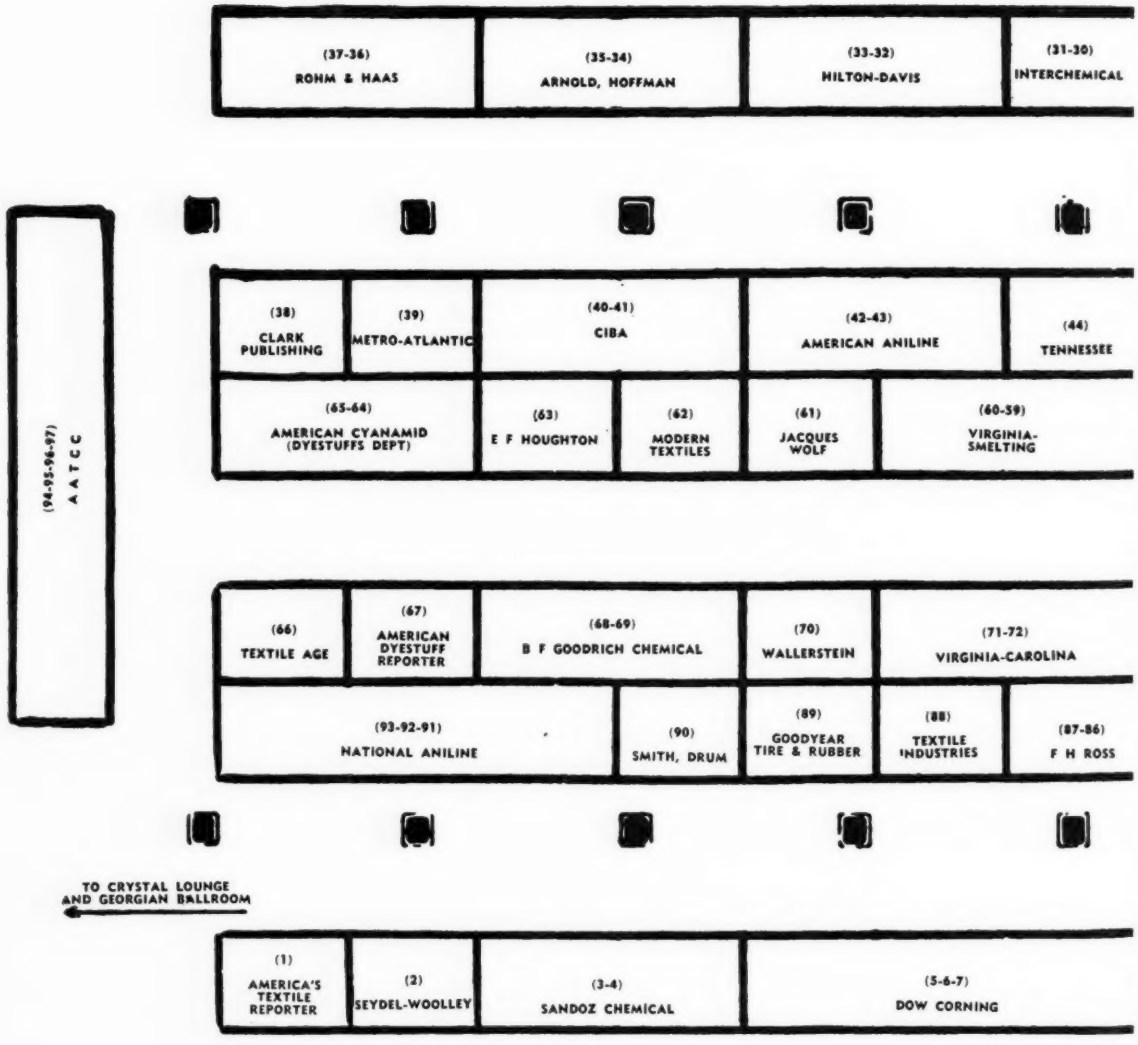
The exhibition hours will be as follows:

Wednesday, September 15th—9 am to 9 pm

Thursday, September 16th—9 am to 6 pm

Friday, September 17th—9 am to 6 pm

Descriptions of the individual exhibits appear on succeeding pages.



List of Exhibitors

Exhibitor	*Booth Number*
American Aniline Products, Inc	42-43
American Association of Textile Chemists and Colorists	
Research Committee	94-95-96-97
Intersectional Contest	48
American Bemberg	57
American Cyanamid Co	
Dyestuff Dept	64-65
Textile Resin Dept	75
American Dyestuff Reporter	67
America's Textile Reporter	1
Arnold, Hoffman & Co, Inc	34-35
Atlas Electric Devices Co, Inc	8
S Blickman, Inc	47
Carbide & Carbon Chemicals Co	84
Chemicolloid Laboratories	82
The Chemstrand Corp	85
Ciba Co, Inc	40-41
Clark Publishing Co	38
Custom Scientific Instruments, Inc	10
Daily News Record	79
Dow Corning Corp	5-6-7
E I du Pont de Nemours & Co, Inc	19-20-21
Eastman Chemical Products, Inc	17-18
Emery Industries, Inc	9
Gaston County Dyeing Machine Co	78
General Aniline & Film Corp, General Dyestuff Co and Antara Chemicals	80-81
B F Goodrich Chemical Co	68-69
The Goodyear Tire & Rubber Co, Inc	89
Hilton-Davis Chemical Co	32-33
E F Houghton & Co	63
Instron Engineering Corp	16
Interchemical Corp	30-31
International Salt Co, Inc	26
Kelco Co	52
Kennett Equipment and Machinery Co	49
Metro-Atlantic Inc	39
Modern Textiles	62
Morton Machine Works	27
Morton Salt Company	13-14
National Aniline Div, Allied Chemical & Dye Corp	91-92-93
Nopco Chemical Co, Inc	46
Nova Chemical Corp	73-74
Olin Mathieson Chemical Corp, Industrial Chemicals Div	58
Pittsburgh Coke & Chemical Co	24
Rohm & Haas Co	36-37
F H Ross & Co	86-87
Royce Chemical Co	50-51
Sandoz Chemical Works, Inc	3-4
Scholler Brothers, Inc	11-12
Seydel-Woolley & Co	2
Sill Industries	65
Smith, Drum & Co	90
Southern Dyestuff Corp	28-29
South Florida Test Service	25
Standard Chemical Products, Inc	76-77
Tennessee Corp	44
Textile Age	66
Textile Industries	88
Textile World	45
United States Testing Co, Inc	22-23
Versenes Inc	53-54
Virginia-Carolina Chemical Corp	71-72
Virginia Smelting Co	59-60
John Waldron Corp	15
Wallerstein Co, Inc	70
Wica Chemicals, Inc	56
Edwin L Wiegand Co	83
Jacques Wolf & Co	61

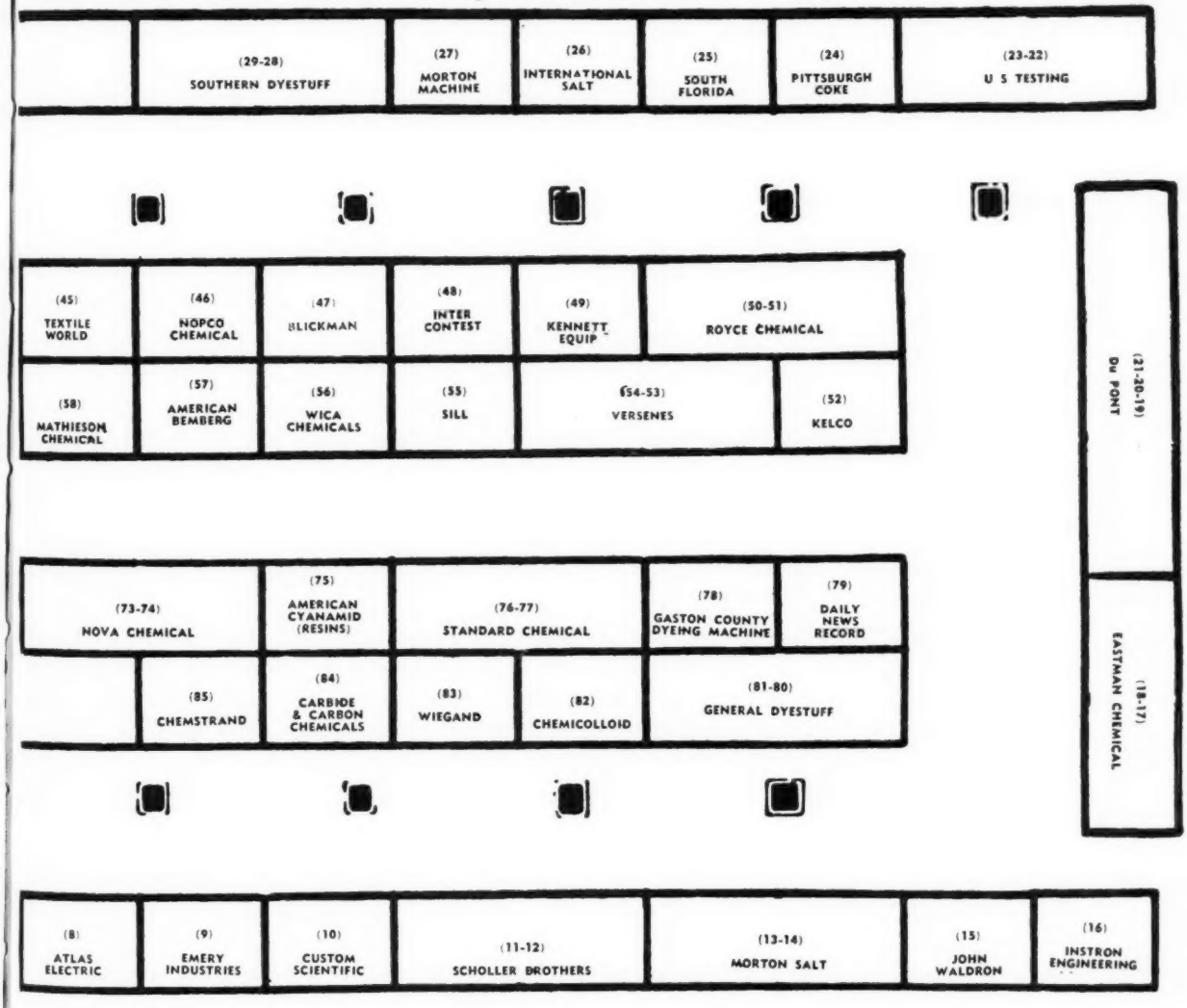


EXHIBIT DESCRIPTIONS

AMERICAN ANILINE PRODUCTS, INC

50 Union Square
New York 3, N Y
Booths 42 and 43

The complete line of AAP dyestuffs and textile specialties featuring Amanthrene vat colors will be shown. Several newly-released specialties will be included.

In attendance— R N Armour, vice president; J J Marshall, manager, domestic sales; J H Orr, manager, Charlotte branch; J T Bohannon, Jr, manager, Chattanooga branch; R W Freeze, manager, Columbus, Ga branch; E K Bush, manager, New England branch; R W Brewer, manager Paterson branch; representatives of sales and technical staff.

AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS

Research Headquarters
Lowell, Massachusetts
Booths 94, 95, 96 and 97

This year the AATCC Research Exhibit will be directed toward informing corporate members concerning research projects currently under investigation. A section of this area, especially devoted to corporate members, will be attended by Albert E Johnson, chairman, and various other members of the corporate membership committee.

The following equipment will be on display:

The AATCC Accelerotor—especially useful in both wet- and dry-abrasion studies and in determining color loss in laundering due to abrasion. A combination test makes it possible to predict behavior in end use wear-wash treatments.

Various Rapid Control Tests—designed to screen out quickly undesirable colors or finishes without the necessity of running the longer standard tests.

Flammability Tester—which has received so much publicity in the past year.

Stainless Steel Launder-Ometer Tubes—originally designed to provide additional abrasion in Launder-Ometer wash tests and now adapted to many other test procedures such as dynamic absorption, drycleaning, combined washfastness and shrinkage, and fulling.

In attendance—Harold W Stiegler, director of research; G J Mandikos and H E Glidden, research associates; E P Johnstone, technical manager; and G R Thompson, administrative manager.

AMERICAN BEMBERG

261 Fifth Avenue
New York 16, N Y
Booth 57

Samples of various types of novelty yarns, e g, Nubbi-Yarn, Measle, Cupione, Harsh, Strata-Slub, Multi-Strata-Slub, Dream Slub, and Flake Plied Yarn, will be exhibited.

In attendance—William Six and Lon Nave.

AMERICAN CYANAMID CO
Dyestuff Department

Bound Brook, New Jerscy
Booths 64 and 65

This exhibit will emphasize the sales appeal of fast dyed fabrics.

In attendance — Sales and technical representatives will be in constant attendance.

AMERICAN CYANAMID CO
Textile Resin Department

Bound Brook, New Jersey
Booth 75

This exhibit will feature Cyana Permel Plus and Cyana Superset textile resin finishes.

In attendance — L A Fluck, manager of textile resin department; T F Cooke, assistant to the manager; and R L Greason, advertising manager.

AMERICAN DYESTUFF REPORTER

44 East 23rd Street
New York 10, N Y
Booth 67

Official publication of the American Association of Textile Chemists and Colorists.

In attendance—Norman A Johnson, editor; Charles A Whitehead, managing editor; Myron D Reeser, business manager; Herbert A Stauderman, advertising manager.

AMERICA'S TEXTILE REPORTER

256 Congress Street
Boston 10, Massachusetts
Booth 1

Textile publication.

ARNOLD, HOFFMAN & CO, INC

55 Canal Street
Providence 1, Rhode Island
Booths 34 and 35

This display is designed to illustrate the impact of color on women's fashions throughout the world. Five continental dioramas—America, Europe, Asia, Australia and Africa—will be shown, depicting typical scenes and costumes for these areas, together with the fibers associated with these continents.

In attendance—W Chester Cobb, commercial vice president; T H Roberts, technical vice president; Reid Hull, sales manager; Arthur Merrill, manager sales service laboratories; Maurice Fox, technical demonstrator, Providence laboratory; Dwight L Turner, southern sales manager; Leonard C Connors, head of Charlotte sales service laboratory; and Jordan Dulin, John Graham, W F Kennedy, Philip Lavoie, Willard Mills, Lowell Shive, and Gordon Watt, salesmen.

ATLAS ELECTRIC DEVICES CO

361 West Superior Street
Chicago 10, Illinois
Booth 8

The following testing equipment will be on display: Fade-Ometer for lightfastness testing; Launder-Ometer for fastness to washing; Scorch Tester for determination of damage due to retained chlorine; Accelerotor for wet and dry abrasion testing.

In attendance — J E Norton, director of research and development; B J Alport and R R Metzinger, engineer; and Fred Slaughter, sales representative.

S BLICKMAN, INC

108 Gregory Ave
Weehawken, N J
Booth 47

CARBIDE AND CARBON CHEMICALS CO
A Division of Union Carbide and Carbon Corp

30 East 42nd Street
New York 17, N Y
Booth 84

Products to be shown include: antistatic finishes (permanent and temporary) for Dynel, Orlon, nylon and Dacron; antifume agents for acetate dyes; dye carriers for Dacron; reactive intermediates for making new fibers and for modifying old ones; solvents for spinning synthetic fibers; a variety of vinyl type monomers for the synthesis of resin finishes; curing agents for the new epoxy type resins; detergents; emulsifiers; wetting agents; dispersants; intermediates for surface-active products; liquid and solid water-soluble lubricants that dissolve in water to form clear solutions.

In attendance—J H McCormick, Dynel representative; and D S Alcorn, B A Gustin, Jr, J B Harlow, R N Joslin, C P McClelland, E D Norton, W E Rixon and J W Walter, technical representatives.

CHEMICOLLOID LABORATORIES INC

30 Church Street
New York 7, N Y
Booth 82

The Charlotte Colloid Mill, used primarily for the processing of dye liquor for both piece and package dyeing, will be on exhibit. This mill is also used widely in processing vat dyes, printing colors, clear emulsions, and special textile chemicals.

In attendance—David F O'Keefe, Leroy E Putnam and E E Ball (Watson and Desmond, Southern representative).

THE CHEMSTRAND CORP

350 Fifth Avenue
New York 1, N Y
Booth 85

Acrilan acrylic fiber and Chemstrand nylon will be featured. The exhibit will highlight the latest developments in The Chemstrand Corporation's chemical textile fiber products, as well as fabrics made with Acrilan. An actual demonstration of the newest development in dyeing three-fiber combinations will be given throughout the show. Visitors will see single-bath, three-color dyeing of fabric made with Acrilan in combination with two other fibers.

In attendance — Robert E Smith, Acrilan sales manager; Walter H Hindle, associate director of research; S Jack Davis, senior group leader, textile research; and M R Dalton, southern district sales manager.

CIBA CO, INC

627 Greenwich Street
New York 14, N Y
Booths 40 and 41

This exhibit will show practical applications of new Ciba developments.

In attendance—K R J Horner, executive vice president; S I Parker, vice president; W H Kieffer, general sales manager; C J Weidmann, technical director; S L Hayes, Charlotte sales manager; A T Brainerd, Chicago sales manager; C T Anderson, Philadelphia sales manager; R W Jacoby, department manager; E P Ward, manager, technical service department; M G Stern, manager, development laboratory; and G L Battye and E L Caswell, technicians. In addition the entire southern sales force will be present.

CLARK PUBLISHING CO

P O Box 1225
Charlotte North Carolina
Booth 38

Textile publication.

CUSTOM SCIENTIFIC INSTRUMENTS, INC

541-543 Devon Street
Arlington, New Jersey
Booth 10

Instruments to be shown include the following: C & R Tester, which will meet ASTM specifications for thickness for asbestos, knit goods, woven glass fibers, pile floor coverings, backing, solid electrical insulation, paper, rubber, etc; Celanese Wrinkle Tester, which is a helpful tool in evaluating the resilience and wrinkle behavior of fabrics under conditions very similar to those occurring in actual use; Mechanical Cotton Blender, which provides effective blending of 10-gram cotton samples, producing 8 samples in about one hour; Pilling Tester, which is designed to evaluate fabrics as to whether they will pill or not; Electrical Resistance Tester, which was developed to measure the electrical resistance of fibers, films and fabrics; Position Assembly and Rigid Yoke, for the Universal Wear Tester and the Flex Tester; Diaphragm, for pilling tests on the Universal Wear Tester.

In attendance—H J Bultman, Jr, sales manager.

DAILY NEWS RECORD

7 East 12th Street
New York 3, N Y
Booth 79

Textile publication.

DOW CORNING CORP

Midland, Michigan
Booths 5, 6 and 7

Feature of the exhibit will be Dow Corning 105 Emulsion, the new silicone finish for wool, wool-containing blends and upholstery fabrics which is said to impart properties that enable wool to rank with the new synthetics in many respects. Other silicone finishes to be shown will include Dow Corning 102, 104 and 108 Emulsions, durable water repellent treatments for synthetics and blends.

In attendance—F L Dennett, manager of the textile finishes laboratory; E M Eddington and R A Ford, assistants to Mr Dennett; R B Ehlers, Atlanta branch office manager; C E Gibson, Greensboro; R C Wolfe, Florence, Ala; and R M Dameron, Greenville.

E I du PONT de NEMOURS & CO, INC

10th and Market Sts
Wilmington 98, Delaware
Booths 19, 20 and 21

EASTMAN CHEMICAL PRODUCTS, INC

Kingsport, Tennessee
Booths 17 and 18

This exhibit will feature Eastman's line of GLF dyes. Examples of piece dyeing and screen printing will be on display.

In attendance—J E Magoffin, C P Echerd, D B Carmichael, R J Fortune, C L Rutherford, W R Ivey, R G Cooper, Vincent Paul, R R Moore and H E Reebel.

EMERY INDUSTRIES, INC

Cincinnati 2, Ohio
Booth 9

Products displayed will include Twitchell 7421 Oil, a fiber lubricant for woolens, worsteds and blends, and Twitchell 7231, 7240 and 7250, rewetting and softening agents for the production of Sanforized fabrics. The exhibit will show a complete evaluation of these Twitchell Oils in terms of the requirements of their final use. Literature on these products as well as Emery's fatty acids and plasticizers will be available.

In attendance—K K Boyd, vice president, charge of sales and purchases; R F Brown, chemical sales manager; V W Colby, asst chemical sales manager; W A Colby, district manager; E W Sack and C T Burgess, sales; A C Fusaro, advertising; N A Ruston, director of development and service; W T Meinert, asst director of development and service; R G Kadesch, director of research; and H T Buckley and M H Smith, textile research.

GASTON COUNTY DYEING MACHINE CO

Stanley, North Carolina
Booth 78

On display will be various pieces of laboratory equipment for the dyeing of yarn, wound on packages, in skein form, etc, and cloth at conventional and high temperatures.

In attendance—G H Hacker, vice president and sales manager; R P Craig, vice president and secretary; and Gordon Hacker, assistant sales manager.

GENERAL DYESTUFF CO
ANTARA CHEMICALS
Sales Divisions of General Aniline & Film Corporation

435 Hudson Street
New York 14, N Y
Booths 80 and 81

This will be an illuminated display indicating location of plants, laboratories, sales and warehouse centers. Also featured will be the latest developments on the dyeing, printing and wet processing of all textiles, including the synthetic fibers, and samples of new technical literature.

In attendance—S H Williams, vice president and general sales manager, dyestuff and chemical divisions of General Aniline & Film Corp; J R Bonnar, sales manager, dyestuffs division; H F Herrmann, general market manager, dyestuffs division; R J Hamilton, advertising manager; L S Thompson, manager, dyestuffs technical dept; Dr C Z Draves, editor of technical literature, dyestuffs division; P J Choquette, research coordinator, dyestuffs division; H G Shelton, sales manager, Antara chemicals division; Dr C E Stevens, manager, chemicals technical dept, Antara chemicals division; E Hansen, asst textile chemicals manager, Antara chemicals division; Dr G M Gantz, technical manager, textile chemicals, Antara chemicals division; W R Brandt, market manager, textile chemicals, Antara chemicals division; *Charlotte office*—C C Cayce, branch manager; W B Huntley, asst branch manager; J R Ellis, manager, technical dept; K A Bridges, W C Wilcoxson, W G Green, R K Federal, C A Sledge and L R Waddey, salesmen; J E Flint, J O Atwood and A F Garrison, demonstrators; *Chattanooga office*—H A Webb, branch manager; W W Bussey and I O Payne, salesmen; *New England office*—W A Lord, branch manager; W M Dewing, asst branch manager; *Chicago office*—J L Eich, branch manager; *Philadelphia office*—E R Heintz, branch manager; *New York office*—H A Horstmann, branch manager.

B F GOODRICH CHEMICAL CO

Rose Bldg, 2060 E Ninth Street
Cleveland 15, Ohio
Booths 68 and 69

Included in this display will be samples of cotton fabrics sized and padded with Hycar nitrile latices, various nonwoven fabrics bound with Geon polyvinyl and Hycar nitrile latices, fabrics woven from synthetic yarns sized with Goodrite TS-20 and synthetic fabrics dope dyed with Harmon colors. The wearing qualities of denim fabric sized with Hycar latex will be demonstrated by using an Accelerotor.

In attendance—B M G Zwicker, coordinator of product development; L F Reuter, manager, fiber sales development;

E E McClellan and W H Schloenbach, product engineers; L H Williamson, publicity; N Sherwood, senior technical man; T C Culver, sales representative, Hycar; E O Redwine, sales representative, plastic materials; and L L Shailer, sales representative, general chemicals.

THE GOODYEAR TIRE & RUBBER CO, INC

Chemical Division
Akron 16, Ohio
Booth 89

This exhibit will feature Pliolite and Chemigum latices which include both styrene and nitrile types. Several suggested applications for the latices will be illustrated such as pigment dyeing, fabric coating, nonwoven fabrics, warp sizing and fabric saturation and impregnation. Technical information will be available.

In attendance—W F Gerrow, G H Campbell, E Scott, A Merritt, J E Warner, J R Houlette, I N Lanning, H S Sell and M J Rhoad.

HILTON DAVIS CHEMICAL CO DIV

2235 Langdon Farm Road
Cincinnati 13, Ohio
Booths 32 and 33

This exhibit will feature three revolving pylons with each face of the pylons describing a product or series of products. Two of the areas will feature the Hiltone pigment printing colors and the Hiltone pigment padding colors. The printing colors will show an African chief with ritual mask pounding a signal drum. The heading on this will be "A New Note Has Been Struck in Textile Pigment Printing Colors." Four native girls carrying colorful bolts of cloth on their heads, with their hands cupped to their ears, are featured in the background. The padding colors will feature a large piano keyboard with a hand striking a note with the heading "A New Note Has Been Struck in Pigment Padding Colors." Shadow boxes will be individually lighted to show the various shades. The third area will display large swatches of cloth describing the entire line of Hilton-Davis textile products.

In attendance—for Hilton-Davis Chemical Co Div—Nelson S Knaggs, vice president in charge of sales; George N Nickles, technical service manager; Arthur S Davis, sales; Vernon C Smith, applications laboratory; *for Hilton-Davis Chemical Co*—S Y Stribling, III, manager, Greenville branch; William S Pearson, southern technical sales, Georgia, Alabama, Tennessee, Greenville branch; Donald J Eccleston, manager, Providence branch; William A Green, sales manager, Providence branch.

E F HOUGHTON & CO

303 W Lehigh Ave
Philadelphia 33, Pennsylvania
Booth 63

Products on display include Anti-Static Agent 575, stock lubricants for woolens and worsteds (Sulfo 1448), a new nonionic detergent (Cerfak 1400), and cotton warp sizes.

In attendance—W H Brinkley, general sales manager, southern division, Charlotte; Bernard Menin, textile research supervisor, Philadelphia; J McLaughlin, technical representative, Philadelphia; and J H Ellicott, sales representative, Atlanta.

INTERSECTIONAL CONTEST

AATCC
Booth 48

An exhibit pertaining to the various Intersectional Contest Papers will be set up in the space.

INSTRON ENGINEERING CORP

2 Hancock Street
Quincy 71, Massachusetts
Booth 16

The new Table Model Instron Tensile Testing Machine, which has a full scale capacity of from two grams to one hundred pounds and is built on the same principle as the Instron Tensile Testers which have been on the market for the past six years, will be featured.

In attendance—Henry W Cook.

INTERCHEMICAL CORP

Textile Colors Division
Hawthorne, New Jersey
Booths 30 and 31

This display will feature Interchemical's new continuous process for pad dyeing synthetics with Interchem Dyes.

In attendance—Members of the sales and service staffs.

INTERNATIONAL SALT CO

Scranton, Pennsylvania
Booth 26

Featured will be the Sterling Model Lixator which produces from rock salt a clear, pure, full-saturated brine. Also on exhibit will be Sterling TNA-5, a replacement for anhydrous sodium sulfate in a neutral dye bath which has been especially developed for textile dyeing to produce economically and efficiently better shade and finish.

In attendance—John A Hughes, Jr, district manager, Atlanta office; Samuel J Martin, manager, Atlanta office; N M Agnew, southern development engineer; and William W Harris, Jr, Albert J Hulsebosch and Olive W McKeown, industrial engineers.

KELCO CO

31 Nassau Street
New York 5, N Y
Booth 52

Keltex, the modern algin print paste thickener, will be featured.

In attendance—Francis Habersberger and J Politi, textile chemists; Walter E Tarvin, C H Poovey and C K Wall, sales representatives; and R O Davison, manager, eastern division.

KENNETT EQUIPMENT AND MACHINERY CO

Kennett Square, Pennsylvania
Booth 49

Materials handling equipment of stainless steel will be shown.

In attendance—Chandler McKaig, vice president; Will Plowden and Dave Williams, Jr, salesmen.

METRO-ATLANTIC, INC

Centredale 11, Rhode Island
Booth 39

New developments in dyestuffs and textile auxiliaries will be shown. Mechanisms showing the testing and application of these materials, as well as finished and dyed fabrics, will be on display.

In attendance—James C Shore, assistant vice president; George Sarti, southern sales manager; and John Valter, southern sales representative.

MODERN TEXTILES

303 Fifth Avenue
New York 16, N Y
Booth 62

Textile publication.

MORTON MACHINE WORKS

Columbus, Georgia
Booth 27

MORTON SALT COMPANY

Chicago 3, Illinois
Booths 13 and 14

Exhibited will be an improved stainless steel brinemaker, which will handle either rock salt or calcium free purified evaporated salt. A new rock salt brinemaker will also be shown.

In attendance—R A Simpson, Chicago; C J Nadherny, New Orleans; B J Knight, Atlanta; H W Venable and E R Ravenel, Decatur; and John M Culp and John C Drake, Charlotte.

NATIONAL ANILINE DIV
Allied Chemical & Dye Corp

40 Rector Street
New York 6, N Y
Booths 91, 92 and 93

Dyeings of outstanding dyes in the National line will be exhibited and a full complement of color cards and technical bulletins, including several recently added editions, will be available. Also to be shown will be examples of unique prints, nylon moldings fabricated from A/C Molding Powder being produced at National's new nylon plant at Hopewell, new liquid and solid formulations of Nacconol synthetic detergents including the newest development — Nacconol SL Liquid Detergent.

In attendance — Technical, sales and technical service personnel from New York, Buffalo and principal branch offices and laboratories.

NOPCO CHEMICAL CO

Harrison, New Jersey
Booth 46

Yarn and fiber treatments, warp sizes, detergents and wetting agents, and fabric finishing resins will be featured.

In attendance—Walter E Brewer, manager, eastern district; John N Gammon, manager, southern district; R B Macintyre, salesman, North Carolina; D S Rion, salesman, South Carolina and Georgia; and J H Holmes, salesman, Georgia and Alabama.

NOVA CHEMICAL CORP

147-153 Waverly Place
New York 14, N Y
Booths 73 and 74

Material dyed and printed with special dyestuffs of Badische Aniline & Soda Fabrik AG, Ludwigshafen a Rhein, Germany, will be shown. Badische literature on dyes and finishing compounds will be available. A continuous bleaching unit, a laboratory ager, and a laboratory automatic jig manufactured by the Benteler Werke AG, Bielefeld, Germany, together with literature, will also be on display.

In attendance—R H Funke, president; C A Funke, vice president; H Levitt, laboratory manager; F F Jacobs, technical sales; various sales representatives.

OLIN MATHIESON CHEMICAL CORP
Industrial Chemicals Div

Mathieson Building
Baltimore 2, Maryland
Booth 58

Product display.

In attendance—J F Carey, D Richardson, E S Norris, F O Tilson, R L Smart and R L Carr.

PITTSBURGH COKE & CHEMICAL CO
Fine Chemicals Division, Dyestuffs

Pittsburgh 25, Pennsylvania
Booth 24

This booth will be used as an information center for Pittsburgh dyestuffs and the Bond machine. Four units of the pilot plant model of the Bond machine will be set up in the dye laboratory of the Georgia Institute of Technology in Atlanta. Times when these machines will be in operation will be indicated by a sign in the booth.

In attendance—R M Locke, sales manager; B C Bond, sales supervisor; T P Caldwell and A F Beane, salesmen; Niles Wells, project engineer, Bond machine; L D Barrick, division manager; K C Ruppenthal, technical supervisor; A E Medas, chief colorist.

ROHM & HAAS CO

Washington Square
Philadelphia 5, Pennsylvania
Booths 36 and 37

This exhibit will highlight the display of products used in wet processing and emphasize the use of the Rhonite resins in finishing cotton fabrics.

In attendance—W A Wardell, R G Lawrence, A K Haynes, L C Harmon, Jr, C M Clevenger, W J Thackston, Jr, H F Lawton and H C Borghetty.

F H ROSS & CO

833 Memorial Drive, S E
Atlanta, Georgia
Booths 86 and 87

On display will be industrial chemicals for bleaching, dyeing and finishing.

In attendance — A G McNair, vice president; J M Ross, secretary; F S Webster, district manager; and J W Lovell, Joe McDowell, E R Hansen, Frank Casey, J T Hall, Jr and Milton Williams.

ROYCE CHEMICAL CO

Carlton Hill, New Jersey
Booths 50 and 51

Textile chemicals, hydrosulfites, desizing agents, wetting agents and textile auxiliaries will be shown. Featured will be Neopon, a surface active compound said to possess excellent detergent qualities with some wetting power which is not affected by hard water and can be used in acid, neutral or alkaline baths, and Neoquest, a chelating agent which sequesters metallic ions. Also on display will be samples of materials dyed by the new Royce vat dyeing process (patent pending).

In attendance—Albert J Royce, Sr, president; Albert J

Royce, Jr, vice president and treasurer; Howard C Royce, vice president, sales, and advertising manager; Richard L Jones, sales manager; P J Wood, technical director; Dr J Petschow, chief chemist; Irving J Royce, southern manager; Wm Fayssoux, southern representative; Arthur Finley and Wm Brown, New England representatives; Lou Meyer, Pennsylvania representative; and Arsene Berube, New York and New Jersey representative.

SANDOZ CHEMICAL WORKS, INC

61-63 Van Dam Street
New York 13, N Y
Booths 3 and 4

This exhibit will emphasize Sandoz' complete line of dyestuffs, pigments and chemicals for all fibers and will illustrate with attractive pieces dyed with Sandoz colors and chemicals.

In attendance—C W Saalfrank, H L Schwarz, H R Walker, M E Gossweiler, R A Schaefer, R J Mitchell, F H Casey, J E Ormiston, M H Klein, A E Koch, A T Hanes, C T Worthen, J R Williams and F P Mackinney.

SCHOLLER BROTHERS, INC

Collins and Westmoreland Streets
Philadelphia 34, Pennsylvania
Booths 11 and 12

Samples of soaps, softeners, scouring agents and finishes for all textiles will be shown, together with samples of fabrics treated with same.

In attendance—L M Boyd, J O Sweitzer, W A Daniel, W S Truette and F C Scholler.

SEYDEL-WOOLLEY & CO

748 Rice Street, N W
Atlanta, Georgia
Booth 2

Shown will be penetrants, detergents, mercerizing aids, Sanforizing oils, kier assistants, softeners, finishes, dye assistants, and other wet processing auxiliaries.

In attendance—Vasser Woolley, president; Paul Seydel, vice president; John Seydel, vice president; Carl R Blumenstein, chief chemist; David Meriwether, sales manager, finishing division; R P Anthony, technical representative.

SILL INDUSTRIES

187 Maplewood Avenue
Maplewood, New Jersey
Booth 55

The Sill ceramic radiant heaters for curing resinous applications to fabrics and stabilizing synthetics of all types will be exhibited. In addition, installation photos of the Carbomatic Pyro-Jet and Una-Ray infra-red burners for drying and curing purposes will be shown.

In attendance: Harold N Bross, Bernard J Lyster, Chung Sheng Na, and Thomas F Walsh.

SMITH, DRUM & CO

432 West Allegheny Avenue
Philadelphia 33, Pennsylvania
Booth 90

On exhibit will be a single package high-temperature laboratory dyeing machine, representative of Smith, Drum's complete line of high-temperature package dyeing machines.

In attendance—Robert N Smith, vice president; Albert P March and Richard W Foltz, technical sales; and Joe M Ballentine, Perry M Parrott and Sam Huffstetler, southern representatives.

SOUTH FLORIDA TEST SERVICE

4201 N W 7th Street
Miami 34, Florida
Booth 25

Colored slides and photos illustrating the testing service available will be shown. This company specializes in actual sun exposure tests on textiles and other materials.

In attendance—E M DeNoon and Warren M Smith.

SOUTHERN DYESTUFF CORP

P O Box 1045
Charlotte 1, North Carolina
Booths 28 and 29

Featured will be the Sodyeco line of dyestuffs and chemicals.

In attendance—John L Crist, Sr, chairman of the board; Leland G Atkins, president; John L Crist, Jr, vice president; Dr Raphael E Rupp, director, sales service; and B Borrmann, George L Dozier, C F Gibson, G C Perkins, R Q Ranson, F V Tribble and T E White.

STANDARD CHEMICAL PRODUCTS, INC

1301 Jefferson Street
Hoboken, New Jersey
Booths 76 and 77

An apparatus for measuring static in running yarn, developed at North Carolina State College, will be demonstrated in connection with various antistatic oils and finishes. Other products to be exhibited include: Stanset resins for crease resistance, wash fastness, and dimensional stability; dye fixatives; coning oils for synthetic fibers; Stantex N L W series, a single-treatment development which imparts both a sizing and lubricating effect on nylon and Dacron yarns; dyeing assistants and wetting agents for all fibers; finishes, resins and softeners; Sanforizing oils; fabrics and yarns that have been treated.

In attendance—L L Grombacher, president; A H Kramer, technical director; Ed Pickup, Charlotte plant manager; J J Bloetjes, Paterson office; J M Myers, Salisbury, N C, office; and J H Callicott, Max Einstein, L C Greene, L W Hamblen and A E Hirst, sales representatives.

TENNESSEE CORP

Atlanta, Georgia
Booth 44

Products to be shown will include acids, copper catalysts, detergents, mildew proofing chemicals, reducing agents, water treating chemicals, and wetting agents. New items include

Sul-Fon-Ate OA-5, a sulfonated oleic acid; copper oxide catalyst, and copper hydrate for mildewproofing.

In attendance—C H Bronson, manager, market development, organic chemicals division; F G Calkin, manager, sales, organic chemicals division; W E Tiller, SO_2 sales; W P Williams, market development.

TEXTILE AGE

22 W Putnam Avenue
Greenwich, Connecticut
Booth 66

Textile publication.

TEXTILE INDUSTRIES

806 Peachtree Street, N E
Atlanta 5, Georgia
Booth 88

Textile publication.

TEXTILE WORLD

330 West 42nd Street
New York, N Y
Booth 45

Textile publication.

UNITED STATES TESTING CO, INC

1415 Park Avenue
Hoboken, New Jersey
Booths 22 and 23

Included in this exhibit will be a sample display of defects, testing instruments, photographs and descriptive literature of the company's testing and research facilities. A slide projector will be used to demonstrate the versatility and scope of the company. Featured will be a display showing typical defects in the wet processing operation and a group of tested fabrics showing how, through testing, the performance of the various special finishes can be predetermined. New Certified Fugitive Tint color cards will be available. Testing instruments to be shown include the Flammability Tester, Brushing Device, Squirrel Cage Gas Fader, Flat Bed Press, Dry Cleaning Machine, and a Terg-O-Tometer.

In attendance—H M Block, F L Fish, W F Morgan, F P Brennan, A J Kellner, G B Acton, E C Cox, Jr and I J Yocom.

VERSENES INC

Framingham, Massachusetts
Booths 53 and 54

The Versenes, amino acid type complexing agents which are used to form extremely stable water-soluble complex compounds, will be shown. These compounds are used for controlling metal ion contamination in products and processes. A large number of different compounds are available for controlling metal ions under varying conditions.

In attendance—Dr J J Singer, director of technical sales; R K Bersworth, sales manager, agricultural division; T J Sheehan, chemist; and A J Gard, sales.

VIRGINIA-CAROLINA CHEMICAL CORP
Fiber Division

99 Park Avenue
New York, N Y
Booths 71 and 72

A complete variety of fabrics containing Vicara in the blend (fabrics that are in use and fabrics that are in development) will be exhibited. Also to be shown will be the newly-developed high crimp Vicara and a preview of Spring 1955 fabrics.

In attendance—John H Karrh, manager; Jesse F Yeates, Jr, sales manager; Lyman Billings, director of technical service; William E Backus, technical service; Randall Hagner, southern representative; and Richard H Stinnette.

VIRGINIA SMELTING CO

West Norfolk, Virginia
Booths 59 and 60

Sodium hydrosulfite and sulfur dioxide are the products to be on display here. Virginia Smelting will present Elphege Nadeau, inventor of the Nadeau loom that enables an amateur to create and weave fabrics of original design in any color of any fiber. Examples of cloth woven on this loom will be displayed. Visitors will have the privilege of operating the loom and to learn from Mr Nadeau of its possibilities.

In attendance—A K Scribner, general manager; R H Israel, advertising manager; H B Channon, manager, technical services; J G Todd, Jr, technical service department; R E Thompson, sales department, home office; T T Allan, New England representative; J R Eldridge, New York representative; J Bracken Johnson and H B Peterson, southern representatives; and E Keys, eastern representative.

JOHN WALDRON CORP

P O Box 791
New Brunswick, New Jersey
Booth 15

A 40-inch wide Microjet coater, which utilizes high velocity air from the patented Uniflo nozzle to apply a uniform coating over a fabric surface, will be exhibited. This machine is used to apply latex and other type coatings to a wide variety of fabrics including upholstery, rugs, bagging, etc. It is also used as a size box in a slasher line permitting higher speeds and more efficient and effective sizing. Also on display will be a 24-inch wide Ecco roll coater which is a multi-purpose machine used for both coating and impregnating.

In attendance—B R Newcomb, president and general manager, and C A Bischoff, special project engineer.

WALLERSTEIN CO, INC

180 Madison Avenue
New York 16, N Y
Booth 70

Rapidase and Serizyme will be featured.

In attendance—J Andrew Clark, sales manager, textile department; Frank A Taberski, James J Casserly and John C Robertson, representatives.

WICA CHEMICALS

P O Box 506
Charlotte, North Carolina
Booth 56

This display will feature several synthetic coatings in following the general "Freedom of Textile Design" theme.

In attendance—William C Caldwell, president; John C Boesch, Jr, Robert O Simpson, and James E Kerr.

EDWIN L WIEGAND CO

7500 Thomas Boulevard
Pittsburgh 8, Pennsylvania
Booth 83

On display will be the large Chromalox Radiant Panel which is useful in the textile industry for booster drying; textile resin finishing to prevent resin migration; heat-setting nylon, Dacron, Orlon and Dynel; silcone finishing; curing latex backing; calendar preheating; embossing; and hot flue preheating.

In attendance — W L Thomson, manager, radiant heating division; H R Miles, application engineer, C B Rogers & Associates, Atlanta; Grier Wallace, Jr, application engineer, Ranson, Wallace & Company, Charlotte; C F Kreiser, general sales manager.

JACQUES WOLF & CO

350 Lexington Avenue
Passaic, New Jersey
Booth 61

The following products will be displayed together with samples of materials processed with these specialties: Statless, an antistatic for all fibers; Lupomin, a cation-active softener; Supergum H, a cold water soluble gum; Oratol L-48, a synthetic detergent; Oil W-261 C, a softener for Sanforized cloth; Hydrosulfite of Soda Q D, for continuous vat dyeing; Hydrozin, for stripping acetate dyestuffs and discharge printing on acetate dyed grounds; Desmer, for mercerizing solutions causing instantaneous wetting out and uniform penetration; Luposec, a water repellent finish; Meleine and Dileine, atmospheric gas fading inhibitors; Amprozyme, a protein and starch digestant; Lomar PW, a dispersing agent and dye retardant; Monopole Oil, double sulfonated; Parnol, a detergent (powder, paste and liquid types); Superclear, a scientific printing gum.

In attendance—James Balloch, Georgia representative; G J Desmond, executive vice president and general manager; Walter Deuble, asst sales manager; C R Bruning, southern representative; G W Apsey, technical staff; other members of sales and technical staff.

1954 ADR AWARD WINNER TO BE ANNOUNCED AT ANNUAL BANQUET

THE winner of the fourth annual AMERICAN DYESTUFF REPORTER Award will be announced at the annual banquet of the National Convention in Atlanta. Judges for this year's contest, appointed by the Association's Publications Committee, are: John N Dalton, Pacific Mills, *Chairman;* Alfred R Macormac, Agricultural Research Center; and James D Dean, retired.

The Award was endowed by the Howes Publishing Company as a memorial to Alfred P Howes, founder of the AMERICAN DYESTUFF REPORTER. Its purpose is to encourage the presentation of the best possible papers before local and national meetings of the Association. The Award, $200 annually, is presented to the author or authors of the paper considered best in the opinion of the judges. Any technical paper presented before a local or national meeting of the AATCC and published in the *Proceedings* as they appear in the AMERICAN DYESTUFF REPORTER is eligible with the following exceptions: Intersectional Contest papers, papers by employees of the AATCC, reports of work substantially subsidized by AATCC, or reports of research committees. It is a condition of eligibility that the paper have its first publication in the *Proceedings.* Papers published in the *Proceedings* from July 1st of one year to June 30th of the next year are considered in each judging period.

The first presentation of the A D R Award was made at the annual banquet of the New York Convention on October 19th, 1951 at the Hotel Statler, New York, to Mason Hayek and Fred C Chromey of the Jackson Laboratory of E I du Pont de Nemours & Co, Inc. The paper chosen was entitled "The Measurement of Static Electricity" and was published in the March 5, 1951 issue. It had been presented before the Auxiliaries and Testing Group Meeting at the Portsmouth National Convention in 1950 by Dr Hayek.

The second presentation of the Award was made at the Annual Banquet of the Boston Convention on November 8th, 1952 at the Hotel Statler, Boston, to Charles J Lyle, Joseph J Iannarone and Robert J Thomas of the Technical Laboratory, E I du Pont de Nemours & Co, Inc. The paper selected was "High-Temperature Dyeing of New Synthetic Fibers" which was published in the September 17, 1951 issue and presented by Dr Thomas before the Rhode Island Section in Providence on May 25, 1951.

The third presentation was made to Robert H Blaker of the Jackson Laboratory, E I du Pont de Nemours & Co, Inc, at the annual banquet of the Chicago Convention on September 19th, 1953 at the Conrad Hilton Hotel in Chicago. The paper, published in the February 2, 1953 issue, was entitled "Principles of Copper Dyeing of Polyacrylonitrile Fibers: The Controlled Redox-Potential Method" and was presented at the 1952 convention held in Boston.

INTERSECTIONAL CONTEST

SEVEN sections will present papers in this year's Intersectional Contest to be held during the 1954 National Convention in Atlanta, September 15th-18th at the Atlanta Biltmore. By winning first place last year the Rhode Island Section took an outstanding lead in number of points. By assigning values of 5, 3 and 2 for first, second and third places respectively (the same ratio in which the prize money is awarded) the standing now is as follows:

Rhode Island—38
New York—33
Philadelphia—29
Northern New England—23
Piedmont—12
Southeastern—5

The record of winners, since the contest was inaugurated in 1940, is as follows:

1940—1st, R I; 2nd S E; 3rd, Phil
1941—1st, N Y; 2nd, Phil; 3rd, S E
1942—1st, N Y; 2nd, N N E; 3rd, Phil
1943—1st, Phil; 2nd, N N E; 3rd, N Y
1944—1st, R I; 2nd, N N E; 3rd, N Y
1945—1st, R I; 2nd, N N E; 3rd, N Y
1946—1st, N Y; 2nd, Phil; 3rd, R I
1947—1st, N N E; 2nd, Phil; 3rd, N Y
1948—1st, Pied; 2nd, N N E; 3rd, Phil
1949—1st, R I; 2nd, N N E; 3rd, Pied
1950—1st, Pied; 2nd, R I; 3rd, Phil
1951—1st, N Y; 2nd, R I; 3rd, Phil
1952—1st, R I; 2nd, Phil; 3rd, N Y
1953—1st, R I; 2nd, N Y; 3rd, Phil

A glance at the above shows that the Rhode Island Section, in addition to leading in points, also leads in the number of first place awards having won 6 times. Following in order are the New York Section with 4 first places, Piedmont—2, Philadelphia and Northern New England each 1. The Northern New England Section leads with 6 second place awards followed by Philadelphia with 4, Rhode Island with 2, and Southeastern and New York with 1 each. In third place awards the Philadelphia Section leads with 6, followed by New York with 5, and Southeastern, Rhode Island and Piedmont with one each. The details of this year's contest follow:

National Committee

FRANK J O'NEIL, *Chairman*
Pacific Mills

Earle D McLeod, *Secretary*
Arnold, Hoffman & Co, Inc

Robert F Brown
Emery Industries, Inc

Kenneth A Howry
Daily News Record

Thomas R Smith
Wiscasset Mills Co

Jackson A Woodruff
American Viscose Corp

John M Gould
Barre Wool Combing Co, Ltd

FRANK J O'NEIL
Chairman, National Committee

EARLE D McLEOD
Member, National Committee

KENNETH A HOWRY
Member, National Committee

ROBERT F BROWN
Member, National Committee

JACKSON A WOODRUFF
Member, National Committee

JOHN M GOULD
Member, National Committee

Judges

Chief Justice
ROLAND E DERBY
The Derby Co, Inc

ROLAND E DERBY
Chief Justice

HOWARD C WOODRUFF
Judge, Hudson-Mohawk

VIRGIL T HARTQUIST
Judge, Philadelphia

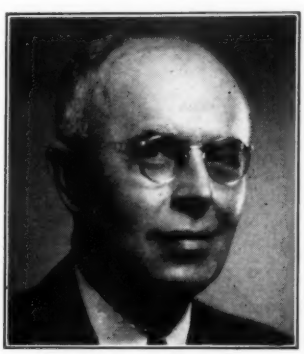
FRANK F MYERS
Judge, Mid-West

NEAL A TRUSLOW
Judge, Piedmont

E D LIND
Judge, New York

M R FOX
Judge, Rhode Island

GEORGE M MOISSON, JR
Judge, Pacific Southwest



CHARLES B ORDWAY
Judge, South Central

Hudson Mohawk

Howard C Woodruff
General Electric Co

Mid-West

Frank F Myers
Geigy Co, Inc

New York

Edward D Lind
Ciba Co, Inc

Northern New England

George O Linberg
Synthron, Inc

Pacific Southwest

George M Moisson, Jr
California Hand Prints, Inc

Philadelphia

Virgil T Hartquist
Jefferies Processors

Piedmont

Neal A Truslow
U S Rubber Co

Rhode Island

Maurice R Fox
Imperial Chemical Industries, Ltd

South Central

Charles B Ordway
American Aniline Products, Inc

Southeastern

Curt Mueller
Bibb Mfg Co

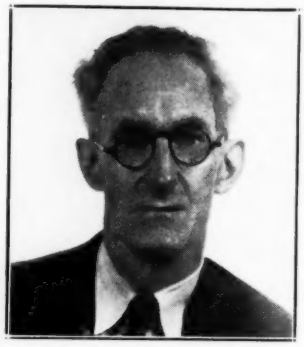
Washington

Alfred R Macormac
Agricultural Research Center

Western New England

Thomas J Gillick, Jr
American Felt Co

CURT MUELLER
Judge, Southeastern



ALFRED R MACORMAC
Judge, Washington

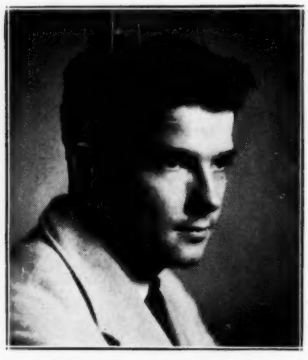
THOMAS J GILLICK
Judge, Western New England

Sectional Committees

New York

PERCY J FYNN,
Chairman and Speaker
J C Penney Co
Genevieve M Smith,
Secretary
Sears, Roebuck & Co
Robert T McGuire
Ciba Co, Inc.
Henry E Millson
American Cyanamid Co

PERCY J FYNN
Chairman, New York



CHARLES A LERMOND
Chairman, Northern New England

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American Aniline Products, Inc
Ralph B Smith
N J Laundry & Cleaning Inst
B S Sprague
Celanese Corp of America
Jules J Devigne
Interchemical Corp
Ludwig Fusser
General Dyestuff Co
Edward F Landau
United Merchants Laboratories, Inc
James C Hayes

Northern New England

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Chairman and Speaker
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The Derby Co, Inc
Kenneth L Dorman
Goodall Sanford, Inc
Walter E Flister
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Ernest R Kaswell
Fabric Research Laboratories, Inc
Robert D Robinson
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Chairman
E I du Pont de Nemours & Co, Inc
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E I du Pont de Nemours & Co, Inc
Frederick W Allendorf
Geigy Co, Inc

Carleton T Anderson
Ciba Co, Inc
Frank J Britz
National Aniline Div
Alfred W Cowan
Ankokas Dyeing & Processing Co
Edward C Diehl
Ankokas Dyeing & Processing Co
Ralph J Ellis
E I du Pont de Nemours & Co, Inc

PAUL L SPEAKMAN
Chairman, Philadelphia

ROBERT J THOMAS
Speaker, Philadelphia

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Borne, Scrymser Co
Arthur W Etchells
Hellwig Dyeing Corp
Alfred F Felgendreger
Continental Mills, Inc
Herbert Finley
Glasgo Ltd, Inc
Thomas H Hart
Hart Products Corp
John M Hesley
Collins & Aikman Corp
J William Kirk
Jefferies Processors, Inc
Walter C Lindsly
Rohm & Haas Co
Samuel H Loper
E I du Pont de Nemours & Co, Inc
John W Rogenmuser, Jr
Collins & Aikman Corp
Thomas J Scanlon
Clarence A Seibert
Scholler Bros, Inc
R E Shenk
William S Sollenberger
American Viscose Corp
Robert K Stanley
Poplar Textiles, Inc
Albert E Stutzke
Globe Dye Works Co
Frederick V Traut
Globe Dye Works Co
George G Wunsch
North American Lace Co

Piedmont

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Chairman and Speaker
Consultant
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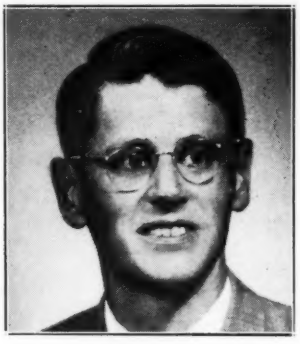
Vikon Chemical Co
John S Beattie
Abbeville Mills Corp
Francis K Burr
Burlington Mills Corp
Kenneth S Campbell
North Carolina State College
Richard C Davis
North Carolina State College
Samuel L Hayes
Ciba Co, Inc
Harley Y Jennings
Dan River Mills
Joseph C King
Fairforest Co
Russell G Lawrence
Rohm & Haas Co
Joseph Lindsay, Jr
Clemson College
Linton C Reynolds
Riegel Textile Corp



EDWARD A MURRAY
Chairman, Piedmont

JAMES R REDMOND
Chairman, Rhode Island

W GEORGE PARKS
Speaker, Rhode Island

ALBERIC T DI MASI
Co-chairman, Rhode Island

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U S Rubber Co
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North Carolina Finishing Co

Rhode Island

JAMES R REDMOND,
Chairman
Interchemical Corp
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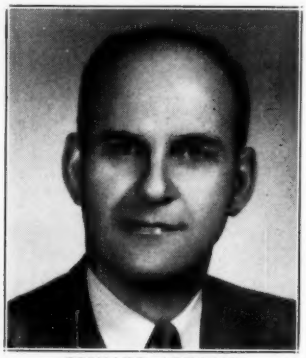
Co-chairman
Products Development Laboratory
Edward J Allard
National Aniline Div
William H Cady
Editor, AATCC Year Book
Richard M England
Monsanto Chemical Co
Boris Frankfurt
Glenlyon Print Works
Don D Gagliardi
Warwick Chemical Co
Edward H Gamble
E I du Pont de Nemours & Co, Inc
William A Green
Warwick Chemical Co
Thomas W Hardy
American Cyanamid Co
Raymond W Jacoby
Ciba Co, Inc
William J Juttras, Jr
Warwick Chemical Co
Thorwald Larson
Carbic Color & Chemical Co
Alfred Marzocchi
Owens Corning Fiberglas Corp
Alden D Nute
American Cyanamid Co
W George Parks, *Speaker*
University of Rhode Island
David O Payne
Warwick Dyeing & Finishing Co, Inc
Robert H Phillips
Cranston Print Works Co
George T Roberts
Greenville Finishing Co
Charles A Robinson
Arnold, Hoffman & Co, Inc
William Stafford
Bradford Dyeing Association
Raymond B Taylorson
Verona Dyestuffs

DANIEL FRISHMAN
Chairman, Washington

Washington

DANIEL FRISHMAN,
Chairman and Speaker
Harris Research Laboratories

Nelson F Getchell
National Cotton Council of America



EDWARD ABRAMS
Chairman, Southeastern

George P Fulton
National Institute of Cleaning & Dyeing

Suzanne Davison
U S Department of Agriculture

Margaret S Furry
Agricultural Research Center

Richard Hunter

NEIL H SHERWOOD
Co-Chairman, Southeastern

Southeastern

EDWARD ABRAMS,
Chairman
Southern Research Institute

Neil H Sherwood
Co-Chairman
B F Goodrich Chemical Co

Abstracts

INTERSECTIONAL CONTEST PAPERS

A Search for Factors Influencing the Crockfastness of Cotton

NEW YORK SECTION

Crocking or the transfer of color from fabric upon frictional contact with other surfaces, has been a problem of long standing and the literature yields a number of proposals for alleviating, if not eliminating, the difficulty. Over the years a number of methods have been proposed for the quantitative determination of crocking and methods have been standardized which control most of the variables encountered in such measurements. Special refinements have been developed which produce measurement for research purposes of small differences in crocking.

The effects of several methods suggested for reducing crocking were measured on both commercially and experimentally dyed cloth by standard testing procedures and by means of refined methods. Data and illustrations show interlaboratory reproducibility of crocking measurements and the effects on crocking of different degrees of fabric prepare, different classes of dye and different methods of application of the same dye, and an evaluation a few regularly applied aftertreatments will be given.

Studies on the Acceptability and Perceptability of Fading

NORTHERN NEW ENGLAND SECTION

Almost daily many thousands of yards of fabric are rejected by a customer on the basis of single Fade-Ometer tests. Many times the same person seeing a duplicate fading on the same piece of goods will pass it. The questions arise as to what constitutes a significant fade and how well observers agree. The work is intended as an introductory investigation.

Prior data indicate that in many cases observers agree neither with themselves nor with other observers. This lack of agreement was investigated by using a series of wool dyeings from which sets of three samples each were taken. The samples were faded for predetermined times. The prepared samples were rated by as many observers as practical for both acceptability and perceptability of fade. In addition to visual judgments the tristimulus values were determined and from these the corresponding color differences. Correlation was attempted between the visual and instrumental ratings.

Factors Affecting Tint Removal from Staple Fibers

PHILADELPHIA SECTION

The increasing variety of fiber blends, which are being produced as a result of the introduction of so many new synthetic fibers, has necessitated, more than ever, the use of tints to identify the various components of the fabric. As with the natural and the older synthetic fibers, the dyer is faced with the problem of tint removal. However, the advent of the new synthetic fibers has been accompanied by the development of new processing operations or by the modification of old ones. The problem of tint removal is complicated by the tendency of these processing operations to fix many dyes and pigments in the fibers.

In the present study, a preliminary survey has been made of the effect of such processing operations as heat setting, crimp setting, can drying (slashing) and aging, as well as of the scouring conditions, on the efficiency of tint removal from twelve staple fibers. It has been shown that some of the

tints used on the older fibers may be used on the new fibers but their removal from all fibers is generally made more difficult by exposure to high-temperature processing operations and is facilitated by increasing the temperature and, where feasible, the pH of the scouring liquor.

Effect of Various Softeners on a Resin-Treated Viscose Rayon Fabric

PIEDMONT SECTION

Although it is customary to include a softener in conventional alkali-formaldehyde resin treatments for improving crease resistance and reducing laundering shrinkage in viscose rayon fabrics, it is often necessary to correct undesirable harshness after resin application by further softener treatments. The studies described in this paper were undertaken in order to evaluate the effect of the ionic nature of the softener on fabric physical properties.

A single piece of spun viscose gabardine shirting was treated at several concentration levels with each of the following softener types: nonionic, anionic, cationic, pyridine. The effect of the softeners was evaluated both before and after laundering.

While it is not possible to make broad generalizations regarding different classes of softeners on the basis of results obtained with a single member of a given class, some interesting differences in physical properties of the fabrics attributable to softener type were found. Only the cationic and pyridine softeners produced major changes in fabric hand. Stiffness changes in the softener-treated materials, moreover, were detectable only at the higher concentrations of the pyridine softener. Measurable effects due to softener treatment were found in tear strength, flat abrasion resistance, sewability, and coefficient of friction.

An Investigation of the Properties of Cyanoethylated Cotton

RHODE ISLAND SECTION

The production of cyanoethylated cotton by the action of acrylonitrile on cotton cellulose has been described well by Compton, Buck and others, and a considerable amount of data has already been compiled on the physical and chemical properties of the new fiber, temporarily named "T-7."

The purpose of this investigation was to determine how T-7 compares with untreated cotton in regard to the action of bleaching agents; the affinity for dyes of all types; tensile strength; tear strength, absorbency; water-repellency; fastness to light, washing, and crocking of dyeings; the effect of various chemical treatments on the CN group (as estimated by nitrogen determinations); and the resistance to micro-organisms as determined by soil-burial tests.

Modification of Urea-Formaldehyde and Melamine-Formaldehyde Crease-Resistant Finishes with Nitrile Latices

SOUTHEASTERN SECTION

Rubber latices in mixture with various urea-formaldehyde and melamine-formaldehyde resins have been applied to cotton chambray to develop a crease-resistant finish with good physical characteristics.

Modification of a urea-formaldehyde formulation with acrylonitrile-butadiene latex in the ratio of 30-70 generally results in a highly crease-resistant fabric. The tearing, breaking and bursting strengths of the fabrics finished with latex-modified urea-formaldehyde show a marked improvement over these properties in fabrics treated with urea-formaldehyde alone. In addition, the abrasion resistance of fabrics containing the latex modification is excellent. Moreover, the tendency of urea-formaldehyde treated fabrics to retain chlorine during laundering is markedly reduced.

Soiling of Fabrics in Contact with the Skin

WASHINGTON SECTION

A technique for soiling fabrics through contact with the skin has been devised and a quantitative method developed for measuring the accumulated dirt. A series of experiments on rate and degree of soiling in relation to fiber type, fabric structure, and finish show the method to be a convenient and realistic means of studying the factors influencing the accumulation of soil on garments. It has also proved of value for investigating soil removal during laundering and dry-cleaning.

Your Hosts——

(Concluded from Page P561)

QUARTERLY MEETINGS——Most of the Southern Sections hold quarterly rather than monthly meetings due to the considerable distance that some of their members have to travel. The Piedmont Section holds its annual meeting in Charlotte, N C, in the fall, and other meetings are held in Greenville, S C; Greensboro, N C; Winston-Salem, N C; Roanoke, Va; Myrtle Beach, S C, and Blowing Rock, N C. The Southeastern Section holds its meetings in Columbus, Ga; Atlanta, Ga, and Talladega, Ala, with the Annual Outing at Radium Springs, Ga. The South Central Section meets quarterly in Chattanooga and Knoxville, Tenn. The Washington Section holds all of its meetings in the District of Columbia.

NATIONAL OFFICERS——The South has furnished two presidents (T R Smith and C Norris Rabold) and five vice presidents (Messrs Smith and Rabold, H A Barnes, A R Thompson, and S L Hayes) to the national association. S L Hayes is currently vice president representing the Southern Region.

MEMBERSHIP——The total membership of the Southern Region is 1,528, which is divided among the four Sections as follows:

	Piedmont	*South Central*	*Southeastern*	*Washington*
Senior	700	131	242	107
Junior	65	17	8	5
Associate	105	7	47	12
Student	4	—	2	1
Corporate	39	12	24	—
Totals	913	167	323	125

National meetings have been held in the South in 1926 (Charlotte, N C); 1930 (Chattanooga, Tenn); 1932 (Greensboro, N C); 1935 (Chattanooga); 1938 (Atlanta, Ga); 1941 (Pinehurst, N C); and 1948 (Augusta). The 1948 Convention marked the first attempt by the Southern Sections to combine their efforts. This year, the four Southern Sections are uniting to offer the 1954 Convention-goer a true Southern welcome.

See you in Atlanta!

Olney Medal to be Awarded to

William Dunford Appel

WILLIAM DUNFORD APPEL will be awarded the Olney Medal at the special award luncheon at the Atlanta Biltmore on Thursday, September 16th, during the 1954 National Convention in Atlanta, Ga. Mr Appel is the eleventh person to win the award, others being:

Louis A Olney—1944	Charles A Seibert—1949
Milton Harris—1945	George L Royer—1950
William H Cady—1946	Raymond W Jacoby—1951
Edward R Schwarz—1947	Werner von Bergen—1952
Harold M Chase—1948	Roland E Derby—1953

The Olney Medal was endowed by the Howes Publishing Company Inc and is awarded by the AATCC annually, or at such longer intervals as the Committee of Award may elect, to a citizen of the United States, for outstanding achievement in the field of textile chemistry, including the development of chemical agents or chemical processes used in the manufacture of textiles, or methods for their evaluation. Its purposes are to encourage and to afford public recognition of such achievements and contributions, and to be a testimonial to Louis A Olney in recognition of his lifetime of devotion and multitudinous contributions to this field.

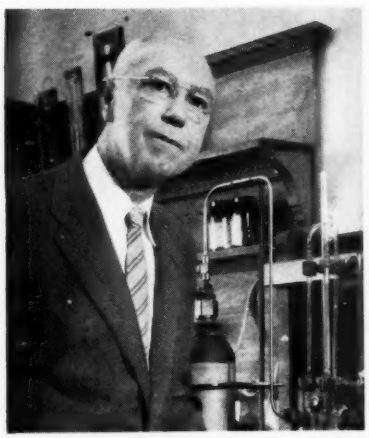
The election of a candidate to receive the Award under the rules agreed upon by the Association and the Howes Publishing Company is by unanimous vote of the Olney Medal Committee of five, constituted as follows: (1) the President of the Association; (2) a member fo the faculty of an educational institution awarding degrees in chemistry; (3) an employee of a concern manufacturing chemical products used in textile wet processing; (4) an employee of a concern manufacturing textiles; (5) a member at large who may be any qualified individual. All must be Senior members of the Association.

The present members of the committee and their terms of service from January, 1954, are (1) J Robert Bonnar; (2) Henry A Rutheford, 1 year; (3) Raymond W Jacoby, 2 years; (4) Harley Y Jennings, 3 years; (5) Walter M Scott, 4 years. The secretary of the Association is secretary of the Committee without vote. As the term of each elected member expires, the committee itself elects a successor to serve for 4 years.

* * *

FOR ACHIEVEMENT IN TEXTILE CHEMISTRY
LOUIS ATWELL OLNEY
THE OLNEY MEDAL AWARDED BY THE AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS TO

The Olney Medal.



W D Appel with apparatus for studying effect of atmospheric-contaminating gases on textiles

Mr and Mrs Appel in Ice Cave in Tumbling Glacier, Mount Robson, Canada

"A bird in the hand". The hands are Mr Appel's, who picked the ptarmigan off a rock where it thought it was invisible

William D Appel working with the officers of Committee D-13 on Textile Materials, American Society for Testing Materials

William D Appel was born in Washington, D C on December 21, 1892. After graduating from McKinley Manual Training High School in February, 1912, he served as assistant in economic ornithology with the Biological Survey of the U S Department of Agriculture until June, 1913, cataloging bird stomachs and studying bird food. He then became a skilled diatom preparator with the U S Bureau of Fisheries of the U S Department of Commerce. In January, 1914, he entered the University of Chicago, majoring in zoology and chemistry. While attending the University he was an assistant in the Department of Zoology for 3½ years and also joined the Illinois National Guard. He graduated with honors in zoology and chemistry in June, 1917.

After graduation he joined the Federal Dyestuff & Chemical Corp, Kingsport, Tenn, as chemist in charge of the analytical laboratory, in 1918 went with Ault & Wiborg, Cincinnati, O, as research chemist, and in 1920 joined the Newport Chemical Company, Milwaukee, Wis, as research chemist on azo dyes. In 1922 he became associated with the National Bureau of Standards in Washington as a dye chemist in the Division of Chemistry. Mr Appel was promoted to his present position of textile technologist and chief of the Textiles Section in January of 1929.

Under his leadership the work of the Textiles Section expanded and many modern techniques and new knowledge in the fields of engineering, chemistry, physics, mathematics, statistics, photochemistry, spectroscopy, microscopy and electronics were applied vigorously in fundamental, applied and consumer research problems on textiles.

Although Mr Appel just missed being a Charter Member of AATCC, he attended the annual meeting in New York in 1922, became a member in 1923, was appointed a member of the Research Committee at once and has served on it continuously ever since. Due to Mr Appel's effort there was much valuable collaboration between the Bureau of Standards and the AATCC. Between 1927 and 1938, the Association maintained from one to several Research Associates at the Bureau. In 1944 he was elected President of AATCC and served for 3 terms. During that period the decision was made to cooperate with the Society of Dyers and Colourists in the production of a second edition of the *Colour Index*, the first Olney Medal was awarded to Dr Olney himself, and the Executive Committee on Research was established.

In 1946 Mr Appel headed a group of experts investigating rayon manufacturing equipment in Germany and visited leading textile research institutions in other European countries. In 1948 he was a delegate to the organizational meeting of Technical Committee 38 on Textiles of the International Organization for Standardization held at Buxton, England, and again visited many textile research and educational institutions in Europe. He was chairman of the U S delegation to the meeting of the committee at Bournemouth, England, in 1951, and was a member of the U S delegation at meetings of subcommittees on colorfastness tests and shrinkage in laundering in New York in 1952 and in Scarborough, England, in 1954.

In addition, Mr Appel has been active as either a member, committee chairman, or head of numerous other organizations including the ACS, ASTM, TRI, ASA, Textile Institute (British), Textile Roundtable of Washington, Society of Dyers and Colourists (British), Washington Academy of Sciences, AAAS, Philosophical Society of Washington, Washington Biologist Field Club, and the Technical Committee on Textiles, Federal Specifications Board.

Mr Appel received the War Department Certificate of Appreciation for Patriotic Services during World War II, the American Standards Association Certificate of Appreciation for services on war standards (World War II), and was awarded the honorary degree of Master of Science and title of Honorary Professor by Lowell Technological Institute in June, 1952.

Mr Appel's hobbies include the study of birds, as he is an able ornithologist. In 1941 he and his family made a pack trip through the King's Canyon National Park in the high Sierras with only two burros as companions. In 1947 he attended the annual camp of the Alpine Club of Canada at Glacier, B C, and also hiked and climbed in the Canadian Rockies. In 1949 and 1950 he again made trips to the U S Rockies. He has an extensive collection of color slides taken on his trips in this country and Europe. He has been active in the Potomac Appalachian Trail Club and in the Boy Scouts.

In 1918 Mr Appel married Harriet Gertrude Fleischer and they have three children and ten grandchildren. Their daughter, Mrs Judson Stewart, lives in Mentor, Ohio, and has four children; their older son, David W, is an assistant professor at the University of Iowa, is a practicing professional civil engineer and has two children; their younger son, James D, is an engineer for the Sandia Corporation, Albuquerque, N M, and has four children.

Abstracts of Technical Papers

SYMPOSIUM: PREPARATION AND DYEING OF TEXTILES

Presiding: Walter M Scott

Desizing Procedures in Relation to Enzyme Evaluation

HECTOR C BORGHETTY and JOHN T TAYLOR
Rohm and Haas Co

The speed-up in textile processing operations has necessitated modifications in desizing procedures, as well as in types of enzymes required. High-temperature desizing places unusual emphasis on the heat stability and the speed of activity of enzymes. Co-ordination of the testing of these enzymes with the current mill applications therefore has become increasingly more important and the speaker will stress the advantages made possible by correct selection of the right enzyme for each specific process. Testing methods that are not related to modern textile technology need to be discarded in favor of new evaluation techniques. Realistic approach to the entire subject of practical mill desizing formulations has been undertaken by the authors in an effort to clarify this controversial subject at least as far as present-day knowledge is concerned.

Hector C Borghetty

Hector C Borghetty has had several years of activity in the development of surface-active agents, resins and finishes for the textile industry. Since January 1951 he has been in charge of new product development and technical service for Rohm and Haas Company.

His previous affiliations have been with Slater Mills of Webster, Mass, where he spent five years as a research and development chemist; Aspinook Co of Jewett City, Conn, as technical director and superintendent of rayon dyeing and finishing; Pilgrim Piece Dye Works, Brooklyn, N Y, as superintendent; and, from 1939 to 1950, the Organic Chemicals Division of General Dyestuff Corp, as manager.

Sources of Color in Cotton

SIMON A SIMON and CARLYLE HARMON
Research Div, Chicopee Manufacturing Corp

Sources of color in cotton are classified as dirt, geometric, intrinsic and extrinsic. *Dirt* refers to those sources readily removed by mechanical cleaning methods; *"geometry"* covers the physical factors of shape; *intrinsic color* refers to genetic color dependent upon variety of the seed; and *extrinsic color* is that brought about by exposure to the environment. Extrinsic color is not mechanically cleanable.

It will be shown that only extrinsic color interferes with bleaching. By means of color evaluation with a spectrophotometer, evidence will be provided to show that the so-called unbleachable colorant is due to fungi.

Simon A Simon

Simon A Simon, who is chief chemist at Chicopee Mfg Corp's Research Division in Chicopee Falls, Mass, has had wide experience in bleaching, cotton finishing, antistatic agents, and dimensional stability of textiles. A graduate of Tufts College, he joined Chicopee in 1937 and was named chief chemist in 1945. He is a member of AATCC, AAAS, ACS, ASTM and the International Society for Semantics.

Some Notes on the Technology of the Single-Stage Continuous Bleaching Process

T E BELL, H D TERHUNE and M H ROWE
E I du Pont de Nemours & Co, Inc

The technology of the single-stage continuous peroxide bleaching process as applied to cotton knit goods, yarn-dyed piece goods, and grey piece goods will be discussed. Comparisons of results obtained, based upon analysis of fabrics obtained from mill scale runs, will be made between single-stage processes and multiple-stage processes. Equipment requirements and operating data for typical single-stage processes will be compared with requirements for typical multiple-stage systems. Relative equipment and operating costs will be estimated.

Thomas E Bell

Thomas E Bell, technical service manager of Du Pont's Peroxygen Products Division since 1945, has been concerned with bleaching since his graduation from Pratt Institute in 1925.

He was assigned to the bleaching experimental station of the Roessler & Hasslacher Co, Perth Amboy, N J, in 1925, and two years later was assigned to the New York-Philadelphia area as technical service representative. When Du Pont absorbed Roessler & Hasslacher in 1931, he became technical service representative in Philadelphia. He transferred to the Peroxygen Products Division in 1939 as technical service supervisor and became technical consultant in 1942.

Spun Colored Fibers

GEOFFREY V LUND
Courtaulds (Alabama) Inc

This paper will cover the historical development, production and properties of fibers colored before chemical spinning by incorporation of coloring matter into the fluid material from which fibers are spun.

The advantages, limitations, and techniques of use of these fibers will be described, and an estimate of their place in textile economy attempted.

Geoffrey V Lund

Mr Lund is manager of Technical Service and Development for Courtaulds (Alabama) Inc. Prior to this appointment, he was manager of the Courtaulds Limited Experimental Unit at Arrow Mill, Rochdale, England, where he was closely associated with the development of the use of spun-colored fibers.

He is a graduate of the University of Leeds (England), an associate of the Textile Institute, Drapers' Scholar, Barker Prizeman and City and Guilds Silver Medalist. He also has worked in the British Admiralty research laboratories.

A Progress Report on the "Bond Processing Machine"

K C RUPPENTHAL
Fine Chemicals Div, Pittsburgh Coke & Chemical Co

The 14" laboratory Bond Machine has been extensively

tested during the last year. Results of these trials will be discussed with particular emphasis on fast color application.

The further data which has been collected indicates that the Bond Machine should be of considerable interest to the practical dyer, wet processor or finisher of many types of textile fibers.

Pittsburgh Coke & Chemical Co has decided to complete the construction of a full size 60" machine on the strength of the data gathered. This machine will be in operation shortly.

K C Ruppenthal

K C Ruppenthal, technical supervisor, Fine Chemicals Div, Pittsburgh Coke & Chemical Co since 1952, was graduated from Columbia University in 1939, whereupon he joined General Dyestuff Corporation as a textile chemist and colorist. He served GDC in the Chicago laboratory until 1941, in various departments of the New York laboratory from 1941-47, and as supervisor of the Philadelphia laboratory—sales service and demonstration—from 1947-52.

SYMPOSIUM: DYEING OF TEXTILES

Presiding: **Kenneth S Campbell**

The Influence of Temperature on Vat Dye Application

MAURICE R FOX
Arnold, Hoffman & Co, Inc and Dyestuffs Div, Imperial Chemical Industries Ltd

This paper will review the progress made in the commercial application of laboratory-gained knowledge on the effects of temperature on vat dye application. A broad outline of process development will be given, together with comments on the advantages and limitations of applying the sodium salts of vat dye leuco-compounds to cellulose at temperatures of 170 to 270°F. Some collected data on diffusion and vatting rates will be quoted and the effects of heat on vat dye dispersions and high-temperature soaping of vat dyeings described.

Maurice R Fox

Maurice R Fox is a dye technologist with ICI who is spending two years in the United States. He is a fellow of the Textile Institute and the Society of Dyers and Colourists, holds a diploma of City & Guilds of London Institute, and is author of the book "Vat Dyestuffs and Vat Dyeing" as well as numerous technical papers.

A Study of Carriers in Dyeing Dacron Polyester Fiber

C L ZIMMERMAN, J M MECCO and A J CARLINO
Research Division, American Cyanamid Co

A study has been made of various types of carriers and their effectiveness in dyeing Dacron polyester fiber. The rate and extent of exhaustion of several acetate dyes using various types of carriers will be shown. Relative diffusion rates will be shown and their importance discussed. A new type of carrier will be presented which increases the rate of diffusion to such a degree that Dacron can be dyed at temperatures below the boil on any type of equipment.

Charles L Zimmerman

Charles L Zimmerman is a group leader in charge of research on synthetic fiber dyeing in the Research Division of the American Cyanamid Co. He received his BS in chemistry from The Citadel and his MS in chemistry from Georgia Institute of Technology and did further graduate work at Clemson, Rutgers and Brooklyn Polytechnic Institute. Formerly plant chemist at Renfrew Bleachery in South Carolina, he has been a research chemist at the American Cyanamid Company since 1942, working on scientific studies in the application of dyes. He is the author of many papers in this field.

Acrilan Dyeing

WALTER H HINDLE
Chemstrand Corp

This talk will summarize the results of research, development and field experience in the dyeing of Acrilan acrylic fiber in 100% form and blended with rayon, rayon and acetate, and wool.

Walter H Hindle

Prior to joining Chemstrand Mr Hindle was in direct charge of the dyeing and finishing research and development department of Burlington Mills Corp at Greensboro, N C, where he worked with all the newer synthetics. He was responsible for developing dyeing and finishing from early research to the pilot production stages.

Previous to this period, he was engaged in dyeing and finishing and research and development for several years with Celanese Corp of America at Amcelle, Md. He has a considerable number of patents covering this phase of his work, a series of which relate to the continuous dyeing of cellulose acetate.

He also was employed by the Dominion Textile Company of Canada and Bradford Dyeing Assoc, Bradford, England, where he received his early training in the plants and laboratories in conjunction with the Manchester College of Technology, specializing in dyeing, printing and finishing.

SYMPOSIUM: FINISHING OF TEXTILES

Presiding: **Leonard Smith**

Application of THPC Flame-Retardant Process to Cotton Fabrics

JOHN D GUTHRIE, GEORGE L DRAKE, JR, and WILSON A REEVES
Southern Regional Research Laboratory, Southern Utilization Research Branch, Agricultural Research Service, U S Dept of Agriculture

Tetrakis (hydroxymethyl) phosphonium chloride, abbreviated THPC, is the key chemical used in a process that imparts flame-resistance to cotton fabrics. An aqueous solution containing THPC, methylolmelamine, urea, and triethanolamine is applied with a padder, followed by drying, curing, and washing. A softener may be incorporated into the treating solution. The functions of each of the components of the system will be discussed in relation to changes in the formulation of the treating solution to meet various requirements. Laboratory applications of the process to various fabrics, such as marquisette, heavy belting duck, twill, sateen, blanket fabrics, napped fabrics, etc, will be described.

John D Guthrie

John D Guthrie received the BSc and PhD degrees from Ohio State University in 1925 and 1929. He was biochemist at the Boyce Thompson Institute for Plant Research from 1929 to 1941, when he moved to the Southern Regional Research Laboratory as supervisor of the Analytical Unit of the Analytical and Physical Section. Since 1949 he has been in charge of the New Products Unit of the Cotton Chemical Processing Section at SRRL.

Wrinkle-Resistant Treatment of Cotton

T F COOKE
American Cyanamid Co

The mechanism proposed for the attainment of wrinkle resistance of cotton fabrics by thermosetting resins of the melamine- or urea-formaldehyde type is by the increased elasticity of the building blocks of the fabric, i e, the cotton fibers. This change in the fibers results in an increase in the elasticity of the yarns which in turn brings about an increase in the elasticity of the fabric. It is postulated that the wrinkle resistance is primarily obtained by chemical reaction between the melamine or urea formaldehyde and the cotton with the formation of cross links or bridges between adjacent cellulosic chains.

A wrinkle-resistant finish for cotton obtained with melamine resins using a newly developed accelerator will be described. With this accelerator there is little or no loss in tensile strength and yellowing of melamine-formaldehyde-treated cotton fabrics during chlorine bleaching. It also greatly improves the efficiency of the resin.

T F Cooks

T F Cooke obtained a BS in chemistry in 1934 from the University of Massachusetts and a PhD in physical chemistry from Yale University in 1937. He was employed by the Standard Oil Development Company from 1937 to 1940 as a research chemist. From 1940 to 1942, Dr Cooke was a research chemist for the Calco Chemical Division of the American Cyanamid Company. In 1942, he was called to active duty as a First Lieutenant with the Corps of Engineers, US Army. He was stationed at Fort Belvoir, Virginia, at the Engineer Board, the research and development agency for the Corps of Engineers. He was in charge of organizing, equipping and staffing the materials laboratory of the Engineer Board and then served as its Director. In recognition of his work he was awarded the Army Commendation Award. He left the service with the rank of Major in 1945. Dr Cooke returned to Calco where he was appointed an assistant director of physical chemical research and served in that capacity until 1949 when he was promoted to the position of assistant director of the Application Research Department. In 1952 he became manager of the Textile Resin Laboratory and in 1954, assistant to the manager of the Textile Resin Department.

He is a member of Phi Kappa Phi, Sigma Xi, American Institute of Chemists, American Chemical Society and AATCC. He is a collaborator of the Southern Regional Research Laboratory of the U S Department of Agriculture.

Nitrile Latices——A New Concept in Textile Finishing

NEIL H SHERWOOD
B F Goodrich Chemical Co

In the past many attempts have been made to improve the abrasion resistance or durability of textiles. Usually rather heavy coatings of resins or rubbers were used which resulted in an unpleasant hand. Recently abrasion resistance, with an accompanying soft, pleasant hand, has been achieved through the use of Hycar, a nitrile latex.

When used as a warp size for blue denim, the nitrile latex serves as an aid to efficient weaving. Fabrics made from these yarns have a permanent abrasion resistance much higher than that of ordinary denim of the same weight. Furthermore, the indigo pigment becomes firmly bound so that such denims do not bleed on laundering.

For fabrics which do not have as much warp on the face as denim, increased abrasion resistance may be obtained by padding through dilute latex baths.

Due to the polar nature of the nitrile particle there is excellent adhesion to textile fibers. This property is utilized in binding pigments or loading materials which will withstand launderings.

Results of mill trials will be discussed.

Neil H Sherwood

Neil H Sherwood, a native of the Midwest, attended the University of Minnesota and he received a degree of BChE in 1939. For two years following graduation he was engaged in vitamin production at the Research Laboratories of General Mills, Inc. In 1942 he joined the B F Goodrich Company, and he is now with the B F Goodrich Chemical Company, the division producing synthetic rubber and plastics. Until 1946 Mr Sherwood was in charge of quality control in a synthetic rubber plant. From 1946 to 1950 his work was in polymerization development of specialty synthetic rubbers. In 1950 he transferred to the Sales Development Laboratory where the last three years have been spent specializing on textile applications.

Antistatic Action Versus Molecular Structure

G R WARD
General Aniline & Film Corp

The undesirable generation of static electricity creates problems in many fields, including textiles. The mechanisms of generation and dissipation of static electricity will be discussed. The necessary amount of conductivity to counteract electrostatic effects on yarns and fabrics will be discussed on a quantitative basis. Not only can chemical agents improve the conductivity, but also modify the triboelectric position, or provide transfer of agent to prevent triboelectric generation. The evaluation of agents by means of a conductivity method and a Neoprene glove electrometer method will be described. A major factor in choosing a chemical structure for use as an antistatic lubricant on a particular fiber is the avoidance of agents which diffuse into the fiber. Surfactants in general exhibit excellent antistatic properties. Data are presented showing the effect of humidity variations. Various nonionic and cationic surfactants have been evaluated on a number of different fibers, with respect to storage conditions. Progressive changes in effectiveness are discussed with respect to penetrability, viscosity and hygroscopicity changing with molecular structure. Brief mention is made of other requirements for an antistatic agent, such as lubricity, which can be controlled by the degree of polyoxyethylation and other structural considerations.

G R Ward

Born 1916 in London, England, G R Ward was graduated from Cambridge University in 1938 with a bachelor's degree in organic chemistry. He worked in Iran on oil field research, in the British Government on radar research, and in fine chemical manufacture as a works chemist until 1945. He then emigrated to the United States and attended Purdue University to obtain a PhD degree in Organic Chemistry in 1948. From 1948 to 1950 he worked at DuPont's Jackson Lab in the General Organic Division. He has been with General Aniline and Film Corp, Central Research Lab, in the field of surfactant synthesis and evaluation, since 1950.

Finishing of Fabrics from Synthetic Fibers

J H ANDREEN

E I du Pont de Nemours & Co, Inc

With the commercial introduction of fabrics prepared from man-made fibers, new techniques in fabric finishing are required to present the desirable textile properties contributed by these fibers with maximum, permanent aesthetic appeal in end-use fabric form.

The polymers from which the new fibers are made possess inherent properties which make the fibers subject to change by a variety of treatments, including mechanical working, heat, and chemical reaction. Innovations in finishing techniques based on these properties are aimed toward enhancing such fabric characteristics as liveliness, resilience, dimensional stability, handle, and resistance toward pilling.

Several new finishing techniques will be described. Practical methods for carrying them out on a commercial scale will be outlined and laboratory tests for evaluating the results of the treatments will be discussed.

John H Andreen

John H Andreen received his early education in the public schools at Rochelle, Illinois; and, on graduation from high school, was introduced to the textile field during a year's employment with the Morgan Dyeing and Bleaching Company in Rochelle.

For three of his college years, he was enrolled in the Colour Chemistry and Dyeing Department at the University of Leeds, finishing his undergraduate work in Organic Chemistry at the University of Illinois. During his graduate studies at Cornell, he was employed by the University in research for the National Defense Research Committee, Office of Scientific Research and Development.

On completing his degree requirements, he held the William S Merrell Company Research Fellowship for one year at Cornell, after which he joined the Du Pont Company, Pioneering Research Division, Textile Fibers Department, Buffalo, New York. He is now employed as research supervisor of Du Pont's Dyeing and Finishing Group, Textile and Industrial Products Research Division, Wilmington, Del.

SYMPOSIUM: PRINTING OF TEXTILES

Presiding: Raphael E Rupp

Fast-Color Printing

RAYMOND W JACOBY

Ciba Co, Inc

With the continually broadening demand for increased fastness properties in textiles, the subject of fast-color printing becomes more important.

The author will discuss the various types of coloring material used in fast-color printing, which include: vat dyes, leuco-esters of vat dyes, insoluble azoics, bonded pigments, and special types. The individual types will be considered as to their advantages and disadvantages, factors influencing results, methods of application, development, effect of some finishing operations upon their fastness properties and special processes.

Raymond W Jacoby

Raymond W Jacoby received his Bachelor of Science Degree in Chemical Engineering from the Massachusetts Institute of Technology in 1910.

From 1910 to 1937 he served in the textile finishing industry in various capacities from plant chemist to plant manager. Since 1937 he has been with Ciba as technician, department manager and branch manager. He has presented papers before most of the Sections of the AATCC and CATCC, lectured on textiles at various schools and colleges, and to professional organizations and laymen groups. He has served on many committees and held various offices in the Rhode Island Section of AATCC and in the national organization. He was awarded the Olney Medal in 1951.

New Developments in Vat Dye Printing

ARTHUR K SAVILLE

E I du Pont de Nemours & Co, Inc

The outstanding development in the field of vat dye printing is the modification of conventional methods of vat dye fixation to improve color yields and thereby reduce printing costs. Vat dyes are printed from neutral vehicles, the fabric then impregnated with a caustic alkali-sodium hydrosulfite reducing system, and continuously steamed. Surprising economies in dyes and chemicals are achieved. The influence of various impregnation techniques, as well as the effect of time and conditions of steaming on the quality of print and dye yield, will be discussed. Advantages of these techniques and their possible impact on the printing industry will be noted.

Arthur K Saville

Arthur K Saville was born in Barre, Mass, in 1917 and received his elementary and secondary schooling in that area. In 1937, he enrolled in the Chemistry Department of the University of Leeds in England, receiving a BSc in chemistry in 1941, and PhD in textile chemistry in 1944. Since that year, he has been employed in the Technical Laboratory of E I du Pont de Nemours & Co, Inc, first in the Dyeing Development Division and later in the Printing Division, which he now heads.

The Use of Resins in Producing Colored 3-Dimensional Styles on Cotton Fabrics

ROBERT H PHILLIPS

Cranston Print Works Co

3-dimensional effects that are fast to washing can be easily produced by impregnating cotton fabrics with thermosetting resins, partially drying, emboss calendering, and subsequently curing. By inking the embossing cylinder, it is possible to produce colored effects in the valleys of the embossed fabrics. The opposite effect can be obtained by coloring the surface of the embossed fabric after embossing. Formulations and processing problems will be discussed.

Many of the thermosetting resins commonly used in cotton finishing also resist the shrinking action of caustic soda. It is possible then, by adding pigments to a resin-printing mixture, to obtain a colored 3-dimensional effect by passing the fabric after printing and curing through a caustic soda bath, where only the unprinted portion of the fabric shrinks. By careful selection of the design and controlling the depth of printing, it is possible to obtain raised colored prints, which in many cases are very attractive. Some of the details of this type of processing will be discussed.

Robert H Phillips

Robert H Phillips is assistant director of the Research and Development Laboratories, Cranston Print Works Company. He received his

ScB in chemistry from Brown University in 1944. After service in the Navy during World War II, he joined Cranston in 1946. His experience has been principally in the bleaching, dyeing, printing and finishing of cotton fabrics. He has been active in the Rhode Island Section, AATCC, and has served on its Intersectional Contest Committee.

Printing and Related Operations on Glass Decorative Fabrics

REMUS F CAROSELLI
Owens-Corning Fiberglas Corp

I. Why Glass Decorative Fabrics?
   a. Physical properties
   b. New decorative concepts
II. Preparation of Goods for Printing:
   a. Coronizing process
   b. Abrasion-resistant finishes
III. Screen Printing:
   a. Water-dilutable resin pigment system
   b. Water-in-oil systems
IV. Roller Printing:
   a. Water dilutable
   b. Water-in-oil systems
V. Finishing Required after Printing.

R F Caroselli

R F Carosell in 1941 joined Owens-Corning, where he became chief chemist of the Ashton Textile Plant, and in 1948 he became associated with the Research Department, where he is now manager of the Decorative Fabrics Section, and assistant manager of the Textile Research & Development Laboratory. Prior to his work in textiles, Mr Caroselli served three years as a cosmetic chemist. He received a BS in chemistry in 1937 from the University of Rhode Island. Mr Caroselli is Vice-Chairman of the Rhode Island Section, AATCC, and a member of the American Chemical Society, The Textile Institute, and Phi Kappa Phi.

SYMPOSIUM: WASTE DISPOSAL PROBLEMS OF SOUTHERN MILLS

Presiding: **R Hobart Souther**

Cotton Slashing with Synthetic Compounds as a Means Toward Pollution Abatement

DUANE SNYDER
Crompton-Shenandoah Co

A discussion of the problem of stream pollution resulting from the discharge of process wastes from the Crompton-Shenandoah Company's dyeing and finishing plants and the steps taken toward solving the problem by substituting synthetic film-forming compounds for natural sizing materials will be presented in this paper. The possibility of reducing overall pollution which stems from cotton dyeing and finishing plants by as much as seventy percent through auxiliary chemical substitution will be in evidence.

Duane Snyder

Duane Snyder, plant chemist at Crompton-Shenandoah Co, Waynesboro, Va, since 1947, was born in 1923 at Charlottesville, Va. He attended North Carolina State College and the University of Virginia, and also attended various courses on industrial waste disposal at Virginia Polytechnic Institute and N C State. His military service included 3 years in the U S Army Medical Dept's Biochemical Laboratory.

He belongs to the Virginia Industrial Wastes and Sewage Works Association and is a member of the Piedmont Section's Stream Sanitation Committee, AATCC.

Among his published papers are: "A Practical Approach to Textile Pollution Abatement and Waste Treatment", *Am Dyestuff Reptr 41*, P745, Nov 10, 1952; "Pollution Control in the Textile Industry by Process Change", *Proc 2nd Municipal Ind Waste Conference*, Univ of North Carolina, Mar 19-20, 1953; and "The Pollution Abatement Program at Crompton -Shenandoah Co", 8th Annual Convention of the Virginia Industrial Wastes and Sewage Works Assoc, May 19-20, 1954.

Relation of Federal Stream Pollution Laws to Industry

LEWIS A YOUNG
U S Public Health Service

Practical evidence of the effectiveness of teamwork in solution of waste disposal problems will be shown. The cooperative program that is being carried on with the states, interstate agencies, industries, and others who are concerned with conserving the quality of water resources will be discussed.

Many of the states have different laws and different requirements for meeting specific standards. The interpretation of these laws in relation to the work of the Public Health Service will be discussed.

Lewis A Young

Lewis A Young was named officer in charge, Southeast Drainage Basins Office, Dept of Health Education and Welfare, U S Public Health Service, Water Pollution Control Division, in 1949. Prior to that he served as chief sanitary engineer, Colorado Dept of Public Health, in charge of the development, organization and direction of Environmental Sanitation Program including all phases of environmental sanitation and public health engineering.

Mr Young received his BS in civil engineering (sanitary option) from the University of Kansas in 1933, and his MS in engineering from Harvard in 1939. He was elected Delta Omega in 1939. For his work with the Institute of Inter-American Affairs he received the Army Commendation Ribbon.

Mr Young's professional associations include the American Society of Civil Engineers, APHA, Federation of Sewage and Industrial Waste Association, Georgia Engineering Society, Georgia Water and Sewage Works Association, and Conference of State Sanitary Engineers. He is also a registered professional engineer (Kansas).

Treatment of Sulfur, Vat and Other Dye Wastes with Carbon Dioxide and Flue Gases

HAROLD R MURDOCK
Harold R Murdock Associates

A variety of adequate disposal and utilization methods are available to a textile finishing plant for processing dyehouse, scouring, mercerizing and bleach plant wastes. In some instances valuable products may be recovered. The selection of a specific method depends primarily upon the process sequences used in manufacture. However, topographical environment and the size and water quality of the receiving stream are vital factors which must be assayed before a final selection of the best treatment process can be determined.

Practical means for neutralizing strong alkaline waste waters, the most serious polluting substance from a textile finishing mill, will be discussed as well as disposition of dyehouse wastes.

Harold R Murdock

Harold R Murdock has had diversified experience in industry for over forty years. After earlier activities in heavy chemical, rubber, dyestuffs and organic synthetics as well as other facets of chemical processing he came South in 1928 as research director of The Champion Paper and Fibre Co, Canton, N C. In 1945 he established a consultation practice. However, a year later the US Army of Occupation in Japan requested him to direct the recovery of the Japanese pulp and paper industry under General MacArthur. At the end of three years the Japanese established The Murdock Medal of Award in recognition of his services. Upon returning to the states in 1949, Mr Murdock joined Robert & Company Associates in Atlanta, Ga, as a specialist in pulp and paper mill design. Later he established his own company, Harold R Murdock Associates, as a consultation organization. Recently he completed the preliminary survey for the Burmese Government in designing a 100-ton pulp and paper mill to use bamboo as the raw material. Since 1945 Mr Murdock has written extensively on his favorite technical subject———industrial wastes.

Bleachery and Dyehouse Waste Studies

JOHN L BROWN, JR
Cannon Mills Co

A two-year study of the waste produced in the bleachery and dyehouse has been completed. Pilot-plant operation is planned to determine the most economical treatment and design factors for construction purposes.

The principals involved, based on analysis of the laboratory studies, will be:

1) Segregation of the waste into three components.
2) Storage of two of these components.
3) Blending of the three components and domestic sewage in proportions that are suitable for biological treatment.

The results of the two-year study and the theoretical pilot plant operation will be discussed.

John L Brown, Jr

As sanitary engineer for Cannon Mills Co at Kannapolis, N C, John L Brown, Jr is in charge of water treatment, sewage treatment, and industrial waste studies. Following his graduation from the University of North Carolina in 1931, he spent approximately eight years as a sanitary engineer with the Cabarrus County (N C) Health Dept before joining Cannon Mills in 1938. He spent 1942-46 in the U S Army Sanitary Corps, and was discharged with the rank of major.

Mr Brown is a member of AWWA and the Federation of Sewage and Industrial Waste Associations.

Biological Treatment of Highly Alkaline Textile Mill Waste

T A ALSPAUGH and R H SOUTHER
Cone Mills Corp

Pilot plant studies are being made on treatment of mixtures of domestic sewage and textile mill dye and finishing wastes by high-rate trickling filters, by activated sludge, and by chemical treatment, to determine the most economical and most efficient method for treating such a mixture.

Contradictory to published reports stating that sewage and industrial wastes with high alkalinity cannot be successfully treated in an activated sludge plant, results in this research indicate that pretreatment through a trickling filter and subsequent treatment through activated sludge is the most efficient method and can be satisfactorily used for treating highly alkaline textile wastes. An unusually high removal of BOD and color is obtained.

Certain process changes in the plant have also been made to reduce the BOD loading through the treatment plant.

Thomas A Alspaugh

Thomas A Alspaugh has been a research chemist with the Cone Mills Laboratory since 1953. He had previously been a sanitary chemist with the Ohio Department of Health———Engineering Division, Stream Pollution Unit, charge of mobile trailer laboratory for stream pollution and industrial waste analysis.

Mr Alspaugh received his BS in chemistry from the University of North Carolina in 1949 and his MS-PH from that institution's School of Public Health in 1951. He is a member of AATCC, ACS, and the Federation of Sewage and Industrial Wastes Associations.

Studies on Textile Waste Disposal

D F SMALLHORST
Texas State Department of Health

This paper will present a brief and condensed report on the activities of the Texas State Department of Health, Engineering Division, in studying the wastes of a textile mill and in determining various methods of treating these wastes so as to render them suitable for discharge into the municipal sewerage system. This work was done several years ago at the request of the industry since the mill wastes were reportedly having a detrimental effect upon the local domestic sewage treatment plant. A report containing the technical information obtained during the process of this study will be available.

D F Smallhorst

David F Smallhorst, senior engineer, Water Pollution Control Section of the Bureau of Sanitary Engineering of the Texas State Department of Health, Austin, Texas, obtained his degree from the University of Texas in 1936, BS in CE (Sanitary Group), and immediately went to work for the Bureau of Sanitary Engineering of the Texas State Department of Health. With the exception of some four years of military service in the Sanitary Corps, he has held various duty assignments with the Bureau including district engineer, engineer of a city-county health unit, instructor for water and sewage plant operators, etc. Since returning from military service he has been in charge of the Water Pollution Control Section of the Bureau.

Atlanta

THE CONVENTION CITY

ATLANTA was born as the southern terminus of the Western & Atlantic railroad—thus its first name was "Terminus." It later became "Marthasville" in honor of the daughter of Wilson Lumpkin, a former governor of Georgia, who was disbursing agent of the State in charge of the construction of the railroad. The name "Marthasville" was changed to "Atlanta" in 1845.

The Western & Atlantic railroad, built upon authorization of the Georgia legislature in 1836, is still owned by the State. The first train pulled out of the depot on December 24, 1842, and ran to Marietta. The railroad was finished to Chattanooga, Tennessee in 1850. Along it General Sherman advanced with his army in the War between the States and also brought his supplies. Sherman drove General Joseph E Johnston along the railroad to the outskirts of Atlanta whereupon President Jefferson Davis removed Johnston and placed General Hood in command. Sherman overwhelmed Hood in a few weeks, captured Atlanta, burned it to the ground, and cut to pieces and burned all railroads converging on Atlanta. From that point on, his march to the sea terminating in Savannah, was practically unobstructed. Atlanta fell in November, 1864, and General Lee surrendered at Appomattox five months later.

On September 15, 1845, the first train from Augusta over the Georgia railroad arrived in Atlanta. A year later the first train from Savannah, over what is now the Central of Georgia railroad, came into Atlanta. A few years later the first train from Montgomery arrived in Atlanta over what is now the Atlantic & West Point railroad, followed by the Atlanta & Charlotte Airline, now the Southern, from Washington. Five railroads converged in Atlanta at the time of Sherman's arrival; now there are fifteen and the growth of the city has progressed with the increase in railroads. When Sherman descended upon Atlanta the population was 10,000; five years later it was 21,000; today in Atlanta's metropolitan area there are approximately 750,000 people.

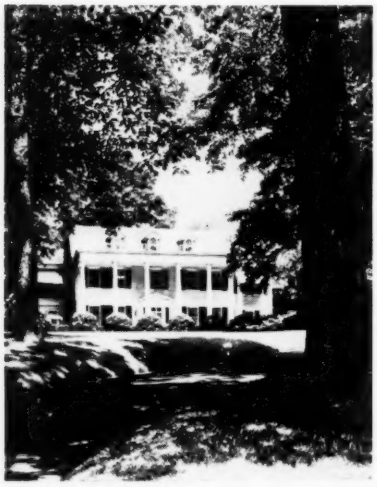
Atlanta is also the center of a network of highways, bus and air transport lines radiating in all directions. It is the third largest telegraphic center in the world and the largest long distance telephone center from the Chesapeake to the Rio Grande. It is the southeastern headquarters of practically every company engaged in nation-wide business. Its 1625 factories turn out 3400 different products.

In 1868 the State Capitol of Georgia was moved from the historical old town of Midgeville to Atlanta. The present State Capitol building was completed in 1889. Atlanta commenced the real stride of her growth with a boldly conceived and brilliantly executed Cotton Exposition in 1881, on grounds where the Exposition Cotton Mill now stands, and in 1895 repeated with the Cotton States and International Exposition which attracted attention and gave tremendous impetus not only to the city's growth but also the development of the textile industry in the southeast.

THE CYCLORAMA

Perhaps on of the best known attractions for visitors to Atlanta is the Cyclorama, a painting of the Battle of Atlanta which hangs in a building of its own in Grant Park. This impressive painting measures 50 feet in height, 400 feet in circumference, and weighs 18,000 pounds. It required approximately 8000 pounds of paints to portray this battle scene.

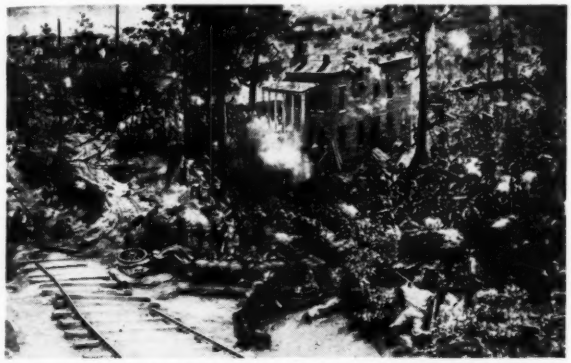
The painting is the composite work of a staff of eight German artists each doing that part in which he excelled. Completed at a cost of $40,000 the painting was first exhibited in Detroit in 1887. In 1891 it was purchased by Paul Atkinson, a former member of the Georgia Legislature, for $2500 and brought to Atlanta for exhibition. The painting was later sold to H H Harrison of Florida who was forced to sell it at auction to Ernest Woodruff for the East Atlanta Land Company who in turn sold it to George V Gress, an Atlanta



Typical ante-bellum home in Atlanta's northside residential area. Atlanta is world-famed for her homes and gardens.

Georgia's state capitol which houses a fine museum of the state's resources, game and fish. Its site was the camping ground of the Union Army during the Battle of Atlanta.

Atlanta's magnificent city hall stands on the site of Sherman's headquarters during the Federal occupancy of the city in 1864.



Interior view of the Cyclorama painting of the Battle of Atlanta. Authentic in every detail, the painting measures 50 feet in height by 400 feet in circumference. Clay models in the foreground merge with the actual painting.

Stone Mountain, located 16 miles northeast of the city, is the world's largest mass of exposed granite. Carving on sheer side will depict General Lee and a group of Confederate officers.

Hightower Textile Engineering Building, Georgia Institute of Technology

Aerial view of downtown Atlanta shows the state capitol and city hall in the foreground.

lumber dealer for $1000. It was moved to Grant Park and later presented to the city and in 1921 was moved into the marble and granite building in which it now stands.

The painting has been completely renovated. By adding plaster figures, shrubs, effigies of fighting and dying men and horses to the inside circular area surrounding the painting, it is almost impossible to tell just where the canvas ends and the floor begins. It is now valued at more than a million dollars and experts believe that since its renovation the painting will last for several hundred years.

OTHER ATTRACTIONS

The State Capitol stands just across the street from the building in which General Sherman made his headquarters. In the rotunda of the capitol is a monument to Benjamin Harvey Hill, a moving spirit of the Confederate Congress, who died a member of the United States Congress. On the plaza of the Capitol stands an equestrian statue of the intrepid Confederate General John B Gordon.

The Stone Mountain Confederate Memorial is located sixteen miles east of Atlanta. It is literally a mountain of stone, 800 feet long, seven miles around the base, and a mile to the summit, on its sloping side. On its northern side the mountain drops in a sheer, perpendicular precipice almost a thousand feet from summit to base. Across this mammoth background of granite is being carved the monument to the men and women of the Southern Confederacy.

Other places of interest: the remains of Camp Gordon where the famous 82nd Division trained for overseas service the Bobby Jones municipal golf course, where the battle of Peachtree was fought; East Lake Country Club, where Bobby Jones and Charlie Yates learned to play golf; Wren's Nest, the home of Joel Chandler Harris, "Uncle Remus"; the many beautiful mansions with spacious lawns; Kennesaw Mountain, where one of the bloodiest battles of the war was fought, and the Confederate and Federal cemeteries at Marietta, a short distance away; Roswell, the location of the old Bulloch mansion, ancestral home of President Teddy Roosevelt's mother, only twenty miles away; statue of Henry W Grady, Georgia's most brilliant orator and journalist; the Federal Penitentiary; Fort McPherson, army post and headquarters of the Third Army; Agnes Scott College, one of the highest ranking girls' colleges in the U S; Georgia Tech, one of the largest technical colleges in the country; Emory University, said to have one of the most beautiful landscaped campuses in the country; Oglethorpe University, named for the founder of Georgia; and the museum of agricultural and mineral resources of the state located in the Capitol building.

ACKNOWLEDGMENT

Material for this article and photos were furnished by the Atlanta Convention Bureau with the exception of the photo of the Hightower Textile Engineering Building, which was furnished by Georgia Tech.

*AATCC Research Newsletter No. 15

NEWS IN GENERAL

The Technical Committee of the Inter-Industry Committee on Apparel Cleaning and Serviceability, comprising representatives of the shirt and sportswear industries and the service trades, has adopted AATCC test methods for its proposed shirt-labelling program now in its final stages of development. These include colorfastness, shrinkage and chlorine-retention tests.

The American Standards Association has advised that 23 additional AATCC tests will be proposed for adoption as American Standards through its Committee L-14. The committee has a wide industry representation including ASTM and AATCC representatives and must act favorably on any textile testing procedure as a requirement for ASA adoption. This action is essential to the pending development of its end-use serviceability standards for all textiles.

A major project has been undertaken to provide with each test method a guide for interpreting results. A special committee headed by TCR vice-chairman Chas A Sylvester was formed by ECR to conduct the project in co-operation with the chairman of both active research and reference committees. The interpretations adopted will appear in future editions of the AATCC Year Book to serve as official guides to the proper meaning of test results.

Judging from the returns being received from a letter ballot of members of TCR, it seems safe to say that the following test procedures submitted by the Committee on Bleaching will shortly become new tentative standards:

Methods for Determining:-

Ash Content of Bleached Woven Cloth
Absorbency of Bleached Woven Cloth
Noncotton Content of Bleached Woven Cloth
pH of Water Extracted from Bleached Woven Cloth
Apparent Fluidity of Dispersions of Cellulose Fibers from Bleached Cotton Cloth

AT RESEARCH HEADQUARTERS

AATCC was recently presented with a new flammability tester and brushing device as a gift of the United States Testing Co. These instruments will be on display in its research exhibit at the Atlanta convention.

Always at this time of the year, the staff has the additional responsibilities of preparing an exhibit of its work for the annual convention and a preview of what is underway assures another interesting display of AATCC test devices and the results obtained from them. Be sure to see this fine exhibit.

Completion of new buildings at Lowell Technological Institute will soon provide much needed additional space for AATCC research laboratories.

COMMITTEE ACTIVITIES

In a break with precedent the Technical Committee on Research has scheduled a meeting to be held during an annual convention. It will directly follow the Alumni Luncheon on Friday, Sept 17 at the Ambassador-Biltmore Hotel in Atlanta, and may become regular practice in the future if members approve. Chairman Charles W Dorn has asked that research committee chairmen be on hand with brief reports, and he has invited anyone interested in the work of TCR to attend the meeting.

The Executive Committee on Research will meet at the convention as has been its custom. A breakfast session is scheduled for 8:00 AM Thursday, Sept 16th.

The Committee on Colorfastness to Light has completed its survey to compare the American sunlight method with the proposed ISO daylight method which follows European practices. A report of the survey has been given to members of the Technical Committee on Research for their information.

* Published every other issue of the AMERICAN DYESTUFF REPORTER.

Rhode Island Section——

FIBER PLACEMENT*

E R SCHWARZ

Massachusetts Institute of Technology, Cambridge, Mass

Basically, the textile industry depends upon the placement of fibers properly with respect to each other for the building up of textile products. Our knowledge of the properties of fibers and their mutual reactions that make yarns and textiles possible, however, is still rather limited, even though these properties have been made use of practically from the beginning of textile history.

The author hopes that eventually our control over the placement of fibers will be so complete that we shall be able to put the respective fibers of a blend in such position that each type will display its desirable properties in that part of the textile structure where those properties can do the most good. As an example, fibers with good abrasion properties should be located in a fabric or twine where abrasion takes place.

BASICALLY, the entire textile industry depends upon the proper placement of fibers, whatever the nature of the ultimate product. Whether they are to be combined by entanglement into a felt or by twisting into a yarn, for optimum results, each fiber must be placed exactly right with respect to other fibers. Theoretically, each fiber must be subject to control of its mobility in three dimensions and individually. Practically, staple fiber is seldom so precisely controlled as this. Fiber comes to the mill in bulk, and much time and energy, together with tons of mechanical equipment, are required to begin to separate fibers into reasonably small, clean tufts or bundles. Even with wool, where the fibers are originally reasonably parallel within each lock of the fleece, they become more or less randomly tangled during the early precessing. Typical of many textile paradoxes, wool fiber for felts is initially reasonably parallel and must be randomly entangled before the felt can be manufactured, while cotton, which must be parallelled before spinning, comes to the mill quite randomly entangled. Nature is kinder to the mill man with the bast and leaf fibers, which are substantially parallel in the plant and are maintained so throughout the processing into yarn. Man-made staple fiber is initially reasonably parallel in most instances, but, unless processed directly from the tow cutter, it loses some of this placement before the initial operations are completed.

The primary consideration of the yarn spinner is to produce uniform yarn, with the same number of equal-diameter fibers at each cross section, and of equal properties throughout. Since fibers vary both in length and in diameter, and also in surface characteristics, this degree of perfection can only be approximated. The problem is further complicated when combinations of different fibers are involved. The practical solution is to attempt to make a yarn that will have the smallest possible standard deviation from the mean of the parameter selected as a measure of uniformity. Statistical frequency distributions of length, diameter, visco-elastic properties and twist have to be investigated, and, since all of these involve variations, the Analysis of Variance becomes an increasingly important tool for the textile technologist. Currently the technical literature is increasingly concerned with matters of quality control and the provision of information as to basic principles and techniques to be used to this end.

FIBER-TO-FIBER RELATIONS——— Even after centuries of production of staple-fiber yarns, the textile technologist finds his knowledge of what makes a yarn possible amazingly lacking in quantitative information. We know that these yarns are held together and given continuity and strength only by reason of interfiber friction. This friction can exist only at points of fiber-to-fiber contact. At each of these points there must be a condition of friction denoted by the coefficient of friction — a measure of the nature of the fiber surfaces involved. There must also be a certain degree of normal pressure between fibers at these points. Presently we know little about the number and location and statistical distribution of these points of contact. We are only beginning to find out something about the coefficient of friction of fiber surfaces in contact, and we are only just beginning to be able to define the direction of the normal force relative to some convenient, arbitrary set of reference axes. We have yet to determine the magnitudes of the normal forces. Until these problems have been further resolved, we can do little toward determining exactly where each fiber should be placed along the yarn and within its cross section. In the past we have been far too preoccupied with matters relating to twist and torsion rather than with the bending of fibers. Mathematically and physically it is now being found that the bending forces and deformations are of major importance. Much revision of thinking in matters of yarn structure and the transmission of forces from fiber to fiber, and yarn to yarn must follow. As a result of the pioneering work of H J Woods *(1)* at the University of Leeds and of work at the Textile Division Laboratories at MIT *(2)*, began some twenty years ago, many of the mysteries of tortuous twist produced by the deformation of the axis of a fiber or a yarn into a helix are beginning to bear fruit. Chow *(3)* in a Master of Science thesis in Textile Technology at MIT several years ago established an equation for tortuous twist which is general, rigorous and fundamental, and of which the previous relationships of Woods and of Schwarz turn out to be special cases. The torques set up in fibers or single yarns within a plied structure have been shown by Platt to be due primarily to the bending of the primary unit about the axis of the secondary structure, rather than the twisting of the primary unit about its own axis. This leads to a concept of *potential* twist which gives rise to very real forces, which can produce either balance or unbalance in the resulting yarn. Unbalance usually makes for a yarn which will be difficult to handle during processing and is undesirable except for such special cases as crepe yarn. With the increase in specific information in matters of yarn structure and of fiber behavior therein, it becomes possible to begin to evaluate the contribution that each type of fiber will make to the end use of the yarn, by reason of its inherent properties. It brings the intelligent engineering of textile structures to meet consumer use much nearer reality. It emphasizes the need for intelligent placement of fibers within yarns relative to each other and requires a reconsideration of problems of blending — so-called.

BLENDING FIBERS———Hitherto the industry has been concerned with produc-

* Abstract of a paper presented before the Rhode Island Section on February 25, 1954. Ms submitted 7/19/54.

ing what it calls a uniform blend of fibers, either of different qualities of one kind of fiber or of several different fibers. Blending of a small amount of wool with cotton in children's knit underwear is a well-known instance. The blending of a certain amount of process waste, and of lots of fiber of differing initial cost for improvement of the economics of fiber handling is a commonplace procedure. But not always has this blending been really carefully thought out. For convenience it has been done on a weight basis rather than volume. In the final yarn, however, the number and placement of the various components of the mix are the important considerations. A 10% addition of wool fiber to cotton by weight may result in a yarn with only one or two wool fibers per cross section, and those well bedded within the yarn. Practically the wool might just as well not be present, except for the effect on the consumer of its listing on the label. Random arrangement of fibers within the yarn is usually sought. This may be difficult to achieve and, when achieved, may not turn out to be what is really wanted. Fibers that are stiffer than others by reason of larger diameter or because of greater orientation of their molecular structure will resist bending and tend to group at the core of the yarn where bending is at a minimum. With the development of textile microscopy and simplified sectioning techniques, the placement preferentially of certain fibers within the yarn may be studied — aided, if necessary — by staining or by using previously dyed fibers. The differential coloring of cotton fibers of varying degrees of maturity as seen in polarized light, with proper arrangement of the equipment, can also be helpful. Measurement of specific birefringence in polarized light may also be an indication of molecular orientation and hence of relative stiffness and strength of fibers.

PLACING FIBERS IN YARNS——— Eventually, because of their inherent properties or by reason of changes in processing — notably in roving and spinning operations — it may be possible to place certain fibers in desired locations in the yarn so that the core might offer increased strength and stability against extension under load, while the surface of the yarn might be made up of fibers having desirable luster characteristics and particularly good affinity for finishing materials. Between the surface layer and the core it is quite conceivable that a layer of fibers having unusually good energy absorption characteristics might be placed to aid in cushioning against pressure, shock, or abrasion.

There would seem to be little need for complete satisfaction on the part of the industry with yarns composed of only one kind of fiber. This is particularly true with the advent of an increasing number of man-made fibers of differing properties. One would hardly be content to live in a stone house, sleep on a stone bed, eat out of stone dishes and use stone implements — simply because they were stone. Yet we are in a certain sense only just emerging from a textile stone age as regards our use of fibers. A certain amount of inertia here is perhaps due to the difficulties involved in handling fibers mechanically when they are only a few thousandths of a millimeter in diameter and a few centimeteres in length, but are numbered in the billions. It is true that air currents have been utilized in part to solve the problem, but, in the case of cotton carding, certainly this was inadvertent. Only recently has it been realized that here the shear forces in a thin slipstream of air between cylinder and plate are many thousands of times greater than centrifugal force in magnitude, and that the nature of the air flow — whether laminar or turbulent — is of great importance. We should increasingly utilize the information coming to us through aerodynamic research, and we should be training our technologists in the basic principles of fluid mechanics. Some work of this sort is already underway and is discussed by Strang *(4)*. Effects of electrostatics must also be taken into account, not so much now from the standpoint of elimination as from that of carefully controlled utilization. Quite possibly we have here a good means for separating fibers from one another. It is also possible that intelligent use of vibrations of high frequencies may be of use in cleaning fibers.

Control of fiber placement along the yarn is obtained in mule spinning by twist control of the drafting instead of by the use of rollers as in the ring frame. Roller drafting in its simplest form tends rather to bunch up short fibers at intervals, forming irregularities in the yarn known as the drafting wave. Addition of aprons, floating rolls of small diameter, and the like have made possible improvement in evenness but do not aid in smoothing out pre-existent lack of uniformity. Drafting with simultaneous twisting of the strand to a limited degree allows the twist to run into the thin places preventing much further attenuation, while thick places draft further. This action calls for intermittent delivery of the roving and involves complications in winding onto the bobbin. It should somehow be possible to devise a continuous system which would still allow for twist control of the drafting. If this is lacking, effort should be devoted to exploring other methods of getting the individual fibers into position. The hand spinner probably introduces fibers a very few at a time into the yarn at the point where the twist is being inserted by the spindle or takli, manipulated with the other hand. It is questionable whether the hand spinner really drafts the bundle of fibers which have been cleaned and somewhat paralleled in the presently accepted sense of the term. Roller drafting has served its purpose fairly well over many years when only purely mechanical means were available for processing fiber. It does not follow that in the future it will be the proper way to process fibers. Already yarn is being spun with some success direct from sliver. Equipment has in several instances been built to make yarn directly from staple fibers formed an instant before from a spinning solution in a stream of water and in control of an electrostatic field. One of these the writer saw in action a number of years ago, but the death of the inventor put an end to this development. A small sample of the crude yarn is still a part of the MIT Textile Division collection. Of course, the continuous spinning of filament yarn directly from the spinneret is no longer a novelty.

The geometric packing of fibers into yarns and yarns into plies is also worth further study. It is presently difficult, if not impossible, to control the number of staple fibers in a single yarn section. Continuous filament constructions do not present this problem, but little attention has been given to relating the number of filaments from the spinneret to the form and function of the yarn. Again, preoccupation has been with the denier, or weight per unit length, of the yarn rather than with its roundness, flatness or firmness, all of which are important in end use.

The filament count used in commercially available rayons most extensively are the 40-, 60- and 120-filament constructions. Theoretically, 120 filaments make a round, compact yarn, as do 61 filaments and 37 filaments. Other good structures are those involving 75, 19 and 12 filaments, respectively. If flat yarns (for good covering power in the fabric for example) are desired a 14-filament construction will give an unstable 4-unit core, surrounded closely by 10 filaments all mutually tangent. Flat filaments (with low circularity coefficient) modify the structure by tending to greater flattening of yarn as compared with filaments leaving a high circularity coefficient. Further details as to placement of fibers in the yarn section are given by Schwarz *(5)*.

In order that fabrics and yarns may be engineered as to choice of fiber components to give desired end-use behavior, it is necessary to determine how much of

each wanted property of each kind of fiber will appear in the final product. Transmission of forces from fiber to fiber will be conditioned by the deformation (largely bending) of the fibers. This in turn is largely determined by their position relative to the yarn axis. Core fibers will be relatively straight, while external fibers will be bent considerably. Platt *(6)* discusses certain phases of this in a preliminary investigation, which is being actively continued.

CONCLUSION———The textile technologist is finding that fiber placement in existing textile structure must be much more thoroughly studied than it has been in the past. He is also concerned with the possibility of placing individual fibers in specific, optimum positions as contrasted with present blending procedures. While the answers will be years away, it is not too early to begin a basic program of research.

REFERENCES

(1) J Textile Inst 24, T317 (Sept, 1933).
(2) Ibid 24, T105 (Mar, 1933).
(3) Textile Research J 20, 175 (Mar, 1950).
(4) Am Wool Cotton Reptr, LXIII 12 (Aug 18, 1949); 12 (Aug 25, 1949); 9 (Sep. 1, 1949).
(5) Textile Research J 21, 125 (Mar, 1951).
(6) Ibid 20, 1 (Jan, 1950).

EMPLOYMENT REGISTER

This column is open for two insertions per year, per member, without charge. Blanks can be obtained from, and filed with, the Secretary of the Association, Lowell Technological Institute, Lowell, Mass. It is understood that these will be open to inspection by prospective employers who can obtain further information from the Secretary.

54-18

Education: BS, Chemistry & Dyeing, Philadelphia Textile Institute, 1954.
Experience: Two summers in dyeing laboratories.
Age: 21; single; references; vicinity of New York City preferred.

8-30, 9-13

54-19

Education: high school.
Experience: superintendent of dyeing, wool and hats.
Age: 40; married; references; location anywhere in U S acceptable.

8-30, 9-13

54-21

Education: BS, Chemistry, New Bedford Inst of Textiles & Technology.
Experience: nontechnical, but with references; now in US Army.
Age: 22; married; position as textile chemist desired, NE United States preferred but not essential.

8-30, 9-13

REPORT OF THE NOMINATING COMMITTEE

THE Councilors representing Sections, in their capacity as Nominating Committee, have nominated Raymond W Jacoby for president in the year 1955. The nomination of any other Senior member, signed by fifty or more Senior members, may be filed with the secretary not later than October 1st, and will be given equal standing on the ballot.

The members of the Northern New England, Rhode Island and Western New England Sections will elect a vice-president for the New England Region. The councilors from this Region have nominated George O Linberg.

The members of the Hudson-Mohawk, New York, Western New York, and Philadelphia Sections will elect a vice-president for the Central Atlantic Region. The councilors from this Region have nominated George L Baxter.

The members of the Mid-West, Pacific Southwest and Pacific Northwest Sections will elect a vice-president for the Western Region. The councilors from that Region have nominated Joseph H Jones.

The members of the Piedmont, Southeastern, South Central and Washington Sections will elect a vice-president for the Southern Region. Having served three years Mr Hayes is no longer eligible. The councilors from that Region have nominated Walter M Scott.

A nomination for vice-president from any Region, signed by twenty-five or more members of that Region, may be filed with the secretary not later than October 1st, and on the ballot will receive equal standing with other nominations for that office.

Harold C Chapin, *Secretary*

AATCC CALENDAR

(A general calendar of events may be found page 612)

COUNCIL
1955—Jan 21, Apr 15, June 17
1954—Sept 15, Nov 19.

NATIONAL CONVENTIONS
Sept 15-18, 1954 (Atlanta Biltmore, Atlanta, Ga); Sept 21-23, 1955 (Chalfonte-Haddon Hall, Atlantic City, N J; 1956 (New York); 1957 (Boston).

NEW YORK SECTION
October 15, November 19 (Kohler's Swiss Chalet, Rochelle Park, N J); January 28 (Georgian Room, Hotel Statler, New York); February 25 (Skytop, Hotel Statler, New York); March 18, April 22, May 20 (Kohler's Swiss Chalet, Rochelle Park, N J).

NORTHERN NEW ENGLAND SECTION
Oct 8 (Colonial C C, Lynnfield, Mass); Dec 10 (Woodland Golf Club, Auburndale, Mass).

PACIFIC SOUTHWEST SECTION
Oct 30 (Outing—Ojai, Calif)

PIEDMONT SECTION
Oct 16 (Hotel Barringer, Charlotte, N C).

PHILADELPHIA SECTION
Sept 24, Oct 29 (Penn-Sherwood Hotel, Philadelphia, Pa); Dec 3 (Kugler's Restaurant, Philadelphia).

RHODE ISLAND SECTION
Oct 14 (Johnson's Dummocks Grille, Providence, R I); Dec 2 (Annual Meeting —Sheraton Biltmore, Providence, R I).

SOUTH CENTRAL SECTION
Dec 4 (Hotel Patten, Chattanooga).

SOUTHEASTERN SECTION
Dec 11 (Atlanta-Biltmore, Atlanta, Ga).

WESTERN NEW ENGLAND SECTION
Oct 1, Nov 12, Dec 10 (Rapp's Restaurant, Shelton, Conn).

WESTERN NEW YORK SECTION
Oct 8 (Buffalo, N Y); Nov 27 (Hamilton, Ont); Jan 14 (Buffalo); Mar 4 (Hamilton, Ont); April 22 (Buffalo); June 24 (Outing)

ACTIVITIES OF THE LOCAL SECTIONS

SOUTHEASTERN SECTION OUTING

May 14-15, 1954 • Radium Springs, Ga

Lady guests add glamour to the Southeastern Section's Outing.

THE captions below pertain to the photos on the opposite page. Note numbers in the lower right-hand corner of each photograph.

(Reading left to right)

1—Joe Richardson (Russell Mfg), Carl Caldwell (Radium Springs), Jack Boykin (National Aniline) and Bill Kennedy (Arnold-Hoffman) conduct the bingo game.

2—Bill Fayssoux (Royce Chemical), "Bo" Bozeman (Russell Mfg), Dick Jones (Royce Chemical), H Gillespie Smith (Am Cyanamid), prepare to tee off.

3—Dave Meriwether (Seydel-Woolley) watches Joe Papini (Lanett Bleachery) in action.

4—Walter Jackson (National Aniline), Mrs Jackson, Kemp Haynes (Rohm & Haas), Royce Smith (Swift Mfg), Mrs Smith.

5—Jay Parker (Kantex Mfg) receives registration prize from Roy Smart (Mathieson Chemical).

6—Joe Federal (General Dyestuff), Bob Price (Pepperell Mfg), Avery Garrison (General Dyestuff), Geo Dozier (Southern Dystuff).

7—Wayne Hays (Callaway Mills) and Roy Smart (Mathieson Chemical)—horseshoe-pitching winners.

8—Jim Hall (F H Ross) and Roy Smart (Mathieson) tend to registration duties.

9—Earl McFarland and Hugh Mason (Diamond Alkali) look over some of the prizes.

10—Sue Henry and Marge Hollowell—winners at bridge and canasta.

11—Barbara Spicer and Bob Lindsey (Russell Mfg) register.

12—Lindsay Wyman (Nova), Mrs Wyman, Harry Momeier (Gregg Dyeing and Finishing), Mrs Momeier, Ashland Wyman, Jack Boykin (National Aniline), Mrs Boykin, Max Ferguson (National Aniline), Mrs Ferguson.

13—Kemp Haynes (Rohm & Haas) practices his putting.

14—Royce Smith (Swift Mfg) gets help from Bill Griffin (Dexter Chemical) in presenting prizes.

15—Val Winkleman (Russell Mfg) accepts cup for millmen's low gross from outing chairman Jack Boykin (National Aniline).

16—Bill Pearson (Hilton-Davis Chemical) accepts award for low net—salesmen from Bill Fayssoux (Royce Chemical) as Bob Hallowell (Coats and Clark), golf chairman, watches.

17—Sue Henry, outing chairman Jack Boykin (National Aniline), Skippy Peterson, and outing co-chairman Dick Henry (Textile Aniline) present door prizes at the cocktail party.

18—Ed Ravenel (Morton Salt) registers golfers.

19—Bill Kennedy (Arnold-Hoffman) gets help from Sam Hayes (Ciba) in presenting door prizes.

(See captions on opposite page)

PIEDMONT SECTION OUTING

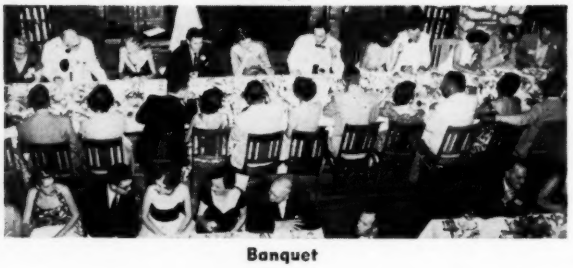
June 11-12, 1954 • Mayview Manor • Blowing Rock, N C

Outing Committee
Front Row (l to r): **Bracken Johnson, Virginia Smelting; Joseph J Blake, Moreland Chemical; Richard Rettew, Polymer Southern Inc; John G Sibley, Jefferson Chemical; James Balloch, Jacques Wolf; Earl Holt, Bryant Chemical; Harry Welsted, Monsanto Chemical**
Back Row (l to r): **Warren E Rixon, Carbide & Carbon Chemical (Outing Chairman); Herman Jordan, Piedmont Processing (vice chairman, Piedmont Section)**

"Real" Turtle Soup
Mr & Mrs Earl Holt: Mr & Mrs M M McCann

"Real" Turtle Soup
(L to r): **Mr & Mrs Arthur R Thompson; Mr & Mrs Herman J Jordan**

Banquet



Banquet

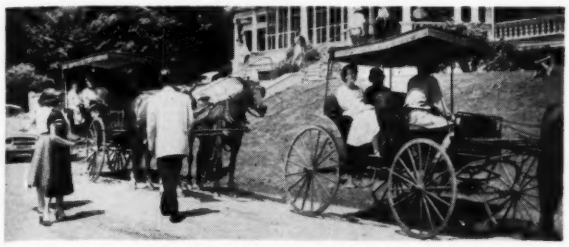
Millionaires Party—Roulette

Millionaires Party

Millionaires Party

(L to r): **Paul J Luck, Peerless Color; William Vetterlein, Sou-Tex Chemical; Mrs Harry M Thompson, Jr; Herbert A Stauderman, American Dyestuff Reporter; Mrs William Vetterlein; Harry M Thompson, Jr, Sou-Tex Chemical**

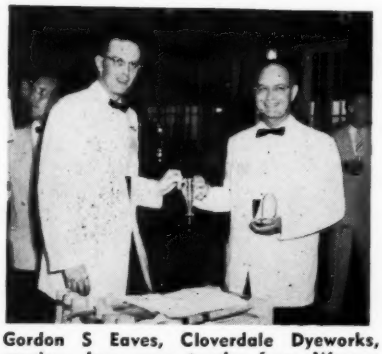
Prizes



Surrey Ride to Cone Estate

Ladies Luncheon

(L to r): Shuffleboarders Merrill G Morris, National Aniline; Willard A Colby, Emery Industries; James E Greer, Burlington Mills



Gordon S Eaves, Cloverdale Dyeworks, receives low gross trophy from Warren E Rixon, Carbide & Carbon Chemicals

Edward Murphy, Pendleton Mfg (left), and Herman B Childers, Amalgamated Chemical

Tee Time

Hors D'oeuvres

Gordon S Eaves, Cloverdale Dyeworks, who took low gross honors in golf

AATCC Monograph No. 2

"THE APPLICATION OF VAT DYES"

"The group of fifteen editors responsible for this monograph consists of a well-balanced cross-section of American industry concerned with the production, marketing and application of vat dyes. The AATCC is to be congratulated on the production of a comprehensive survey of American vat dyeing and printing practice which is the major theme of this application . . . the book will be useful as a work of reference at this side of the Atlantic and as a working manual for the American colorists for whom it was designed. . . . If a clear account of American practice is required . . . the enquirer *must* have access to this volume."—*JOURNAL OF THE TEXTILE INSTITUTE* (England).

"This book . . . is abreast of the latest technical developments and research. Its value is increased because of the lack of books in this field today . . . we can readily recommend this book to all technical and practical men"—*MELLIAND TEXTILBERICHTE* (Germany).

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"This monograph contains the work of many mill-experienced authors, plus good, sound chemical and application principles developed in the laboratories and mills enjoying AATCC membership. . . . This book puts between two covers much information that a dyer is constantly searching for. It is a good investment for any laboratory, dyehouse, or printshop."—*TEXTILE WORLD.*

". . . this monograph should be in the hands of every user of vat dyestuffs, every student and every teacher. The book is well indexed and includes valuable lists of equivalent trade names. It will certainly take its place as a standard book of reference."—*JOURNAL OF THE SOCIETY OF DYERS AND COLOURISTS* (England).

DR H C CHAPIN, SECRETARY, AATCC

PO BOX 28 ● LOWELL, MASS

NORTHERN NEW ENGLAND SECTION OUTING • JUNE 11, 1954 • METHUEN, MASS.

(Reading left to right)

ROW A——(Left): *Standing*——J Travers (United Aniline), J Ormiston (Sandoz), J Markgren (W C Durfee), E Kaswell (Fabric Research Labs), H Rooney and J Sheehy (Pacific Mills), E Lynch (The Derby Co, Inc), E B Bell (Textile Aniline & Chemical). *Seated*——W Schmottlach (Goodall-Sanford Inc), A Mack (Dexter Chemical), A Aronson, (United Aniline), C Kopatch (Ciba), J Ploubides (Pacific Mills), C Brown and M Lane (Geigy).——(Center): J Batts, H Buckley (Leatex Chemical), A Sampson (National Aniline), F Johnson.——(Right): M Campbell (Pacific Mills), L Rossiter (Nopco).

ROW B——(Left): A Mack (Dexter Chemical), F Benvie (General Dyestuff).——(2nd Left): G Linberg (Synthron), H Chapin (AATCC).——(3rd Left): H Hartnett (General Dyestuff), H Kane, M McCarthy (Goodall-Sanford).

ROW C——(Left): C Rowntree (Pacific Mills), H Weltz (Sagamore Color & Chemical), H Ortstein (Pacific Mills).——(Center): J Travers (United Aniline), R Derby, Jr and E Lynch (The Derby Co, Inc).——(Right): L Putnam (National Aniline), C Lind, F Gainey and L Manchester (National Aniline).

ROW D——(Left): H Jenkins (Standard Brands), H Buckley (Leatex Chemical).——(2nd Left): H Chapin (AATCC), H Leitch (Pacific Mills).——(3rd Left): E Bagasson (The Bell Co), M Washburn (Emery Industries).——(Right): A Fraclon, W Sanstead (Goodall-Sanford).

A RAPID TEST FOR GAS-FADING RESISTANCE OF DYED CELLULOSE ACETATE FABRICS

H MARTIN FRIEDMAN
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INTRODUCTION

ALTHOUGH the need for a standard test method for determining the resistance to fading of dyed cellulose acetate when exposed to atmospheric fumes has been adequately filled *(1)*, this type of evaluation is time consuming, and requires designated equipment of unique design not found in the average laboratory. With this method, accurate comparative results are obtained only after long time periods. For instance, a three cycle gas-fading test normally requires one day for each cycle or a total of three consecutive working days.

The problem of "gas" fading of acetate fabrics has been adequately discussed by Salvin, Paist and Myles *(2)*. Greenspan and Spoerri *(3)*, in an attempt to determine the cause of gas fading, showed that nitric oxide would produce a color change very similar to that obtained during normal gas fading. Meili *(4)* showed that fume fading could be produced in enclosed air spaces by use of solutions containing sodium nitrite and hydrochloric acid. Ray, in a series of articles *(5)*, has evaluated various test procedures and the influence of different factors on the results obtained.

We have endeavored to devise a simple, rapid procedure for the evaluation of various commercial gas-fading inhibitors, and have tried to use only equipment found in the average laboratory.

We recognize that reliable, established methods are available. Our suggested procedure is not an attempt to substitute for that which has proven satisfactory. But where the mill chemist would like to run his own evaluations in a quick fashion on a comparative basis we feel that the procedure outlined below may be found useful.

PREPARATION

GAS-FADING CHAMBER———Many supply houses use a 15-liter glass bottle as a shipping container for some of their chemicals, and the use of such with screw cap is recommended in this procedure. (See Fig 1). Two ¾" holes are cut in the cap, suitable corks inserted and a glass hanger suspended from one of these corks. This hanger can be made from a 20" length of soft annealed glass tubing or glass rod of ⅜" diameter. Lengths of 2½" are marked off and right angle bends made to form a square, the rest of the rod being bent perpendicular to the square. The hanger is placed in the bored cork hole so that hanger is 5" below top of cap. If glass tubing is used, the ends should be sealed to preserve air-tight system. A ¼" diameter glass tubing 10" long is inserted in the center cork of cap. A piece of rubber tubing, pinch clamp and glass funnel are attached to the ¼" glass tube. The apparatus is now ready for test purposes. Preparation of this gas-fading chamber can be completed in an hour or two.

H M Friedman

This procedure is not intended to be used in place of the recognized AATCC test method. It is suggested by the author as a relative procedure which shows promise as a spot test in giving a differentiation between fabrics which are definitely good to gas fading as against those that are definitely poor to gas fading. The equipment is not specialized and is easily available at low cost.

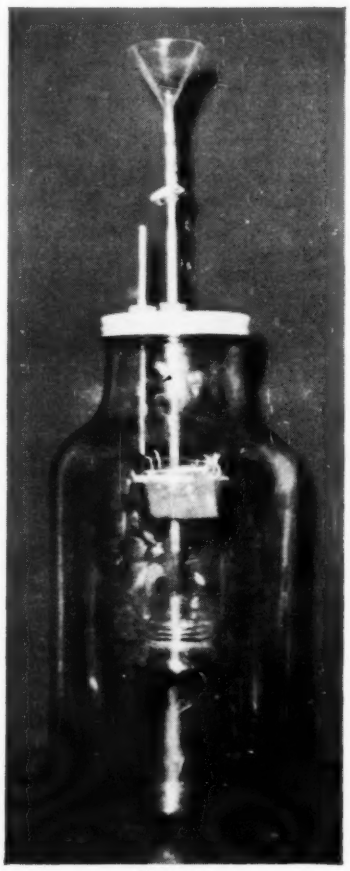


Figure 1

CLOTH———For our tests, a strip of fabric 3" x 6" is used as control. Another strip 1½" x 3" marked off in four ¾" portions is sewn on the top edge of its width with white cotton loops to one side of the glass hanger. Three samples plus the control are so arranged. At the end of each cycle, one of the ¾" portions is removed and placed on the control strip. In this manner, the results of three cycles may be obtained.

GAS PRODUCTION———One gram of sodium nitrite (reagent grade) dissolved in 250 ml of water @ 40°C is poured into a pint jar, and the jar is placed inside the chamber. The glass hanger containing the cloth samples is then placed into position in the gas chamber. The cap is screwed tight. 5.0 gm HCl (CP grade), diluted with 50 ml of water, is poured through the funnel into the freshly prepared sodium nitrite solution, and 100 ml of water at 40°C added. The pinch clamp is tightened and the starting time for the cycle run noted.

EXPERIMENTATION

AATCC cellulose acetate satin fabric* dyed with Celanthrene Brilliant Blue FFS 200% was used as a relative standard. Experimentation showed that, with the described apparatus, the average time required for fading of the standard to the same degree as the standard faded sample was 1 minutes, seven seconds.

If it is desired to have a longer time period for one cycle, the concentration of sodium nitrite and hydrochloric acid used may be reduced. For our purposes, a 15-minute time interval was quite satisfactory. After their removal from the test chamber, the cloth samples are aired and then ironed. In order to duplicate results, it was found necessary to clean the air chamber after each cycle run and

* Testfabrics Inc supplies the dyed acetate satin ready for use as well as the standard faded sample.

make up a new amount of nitric oxide gas.

Two types of gas-fading inhibitors are currently in commercial use. They are used singly or in combination with each other. Type A, used in the finished operation after the dyeing process has been completed, gives temporary protection. Type B, used concurrently with the dyestuff in the dyebath, exhausts on the fabric and gives protection against gas fading which remains to a certain extent after washing and drycleaning.

The above-mentioned procedure was used without modification on type A gas-fading inhibitors.

Using type B inhibitor, the following dyeing procedure was employed: 1.5, 2.0, 2.5 or 3.0% of inhibitor on the weight of a scoured white acetate fabric was used in the same bath with sufficient concentration of Celanthrene Brilliant Blue FFS 200% (usually 0.4%), to match the shade of the AATCC standard. (Variations in depth of shade materially influence the time required to complete one cycle). A bath ratio of 20 to 1, temperature of 75-80°C, and time of 30 minutes were adopted. After being rinsed, air dried, and ironed, the sample was ready for the gas-fading test as described above for Type A Inhibitor.

TABLE I

Gas-fading inhibitor	*"A"*		*"B"*		*"C"*		*"D"*	
Amount used (%)	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
One cycle	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass
Two cycles	Fail	Pass	Fail	Pass	Fail	Pass	Fail	Pass
Three cycles	—	Pass	—	Pass	—	Pass	—	Pass

RESULTS

Four competitive gas-fading inhibitors of the "permanent" class (type B) were used in accordance with the outlined procedure in amounts of 2.0 and 3.0% on weight of fabric. The results are listed in Table I.

All competitive items gave protection when used in sufficient quantity. When 2.0% was used, none of the products would give more than one-cycle protection, and only "B" and "C" gave that amount.

CONCLUSION

Our suggested method gives the chemist an opportunity to run his own comparative gas-fading tests without specialized equipment in a minimum of time.

ACKNOWLEDGMENT

Acknowledgement is made to J Jack Weiss and Sylvia Meth of our laboratory for assistance in the development of this method.

REFERENCES

(1) *1953 Tech Man Year Book AATCC* XXIX, 93.

(2) Salvin V S, Paist, W D, and Myles, W J, *Am Dyestuff Reptr* 41, P297 (1952).

(3) Greenspan, F P, and Spoerri, P E, *ibid* 30, P645 (1941).

(4) Meili, E, *Modern Textiles* (formerly *Rayon Textile Monthly*), p 81, (May, 1948).

(5) Ray, F K, *Am Dyestuff Reptr* 37, P76, P287, P529 (1948).

● ABSTRACT ●

Peroxide Bleaching of Protein Fibers

F Jordinson, *Textile Mfr* 80, 205-9, April, 1954.

The high stability of modern hydrogen peroxide is due to its extreme purity. At a pH of 6 or below, there is very little loss of oxygen at 100°C. The stability is noticeably affected by such impurities as grease and metals. Iron, copper, and manganese, whether present in the apparatus used or in the water supply, or in the fiber itself, promote catalytic decomposition of the peroxide, frequently produce stains, and may cause disulfide bond breakdown in the wool fiber. The increasing use of stainless steel is gradually eliminating many troubles from this source.

An important factor in peroxide bleaching is the adjustment of the bath so as to allow a steady liberation of active oxygen. The alkalinity of the bath may be a little above pH 7 or as high as 10 or 10.5, depending on the fiber to be bleached, the degree of whiteness desired, and the temperature, which may vary between 20° and 80°C.

It is customary to use an alkali which can act as a stabilizer and also as a buffer. Such alkalis are sodium silicate and sodium pyrophosphate. Sodium silicate is still used in silk bleaching, but for wool it is being superseded by sodium pyrophosphate. The time of bleaching may range from ½ hour to 15 hours (overnight), and the temperature from cold to 50°C (maximum safe temperature). The pH may be from 8 to 9 or even higher in some cases. For indicators, Cresol Red turns pink at pH 8.2, while phenolphthalein turns purple at pH 10 (useful where a short quick bleach is required).

An aging method for wool flannels and blankets is described. The goods are impregnated in a peroxide solution stronger than usual, at a pH of 9-9.5, at 50°C, then squeezed and allowed to lie wet for several hours. The process is not used much today, according to the author.

An alkaline bleaching process has been developed for the bleaching of wool blankets which have been scoured, carbonized and neutralized. Oxalic acid and a stabilizer are added to the bath, which is adjusted to pH 3. The material is saturated thoroughly at 35-40°C, piled and allowed to age for 24 hours. The advantages of this process are (1) reduced chemical attack on the wool, (2) increased fastness of dyes, (3) improved hand, (4) improved napping properties, and (5) suitability for application of an "optical bleach."

Wilkinson has pointed out that ordinarily the presence of iron in peroxide baths should be avoided, owing to its catalytic action, but by limiting the amount of iron, advantage can be taken of this catalytic action to secure a higher degree of bleaching than is otherwise obtained.

Cultivated degummed silk is bleached with the addition of silicate of soda, at 75-80°C and a pH of 9-10. Tussah silk is much more difficult to bleach; a rather stronger bath is used, and a longer period of steeping, but a pale creamy color is the best that can be obtained.

Of the casein fibers, Fibrolane usually requires no bleaching. If necessary, it may be bleached cold with peroxide, with the addition of silicate.

The Ardil fiber varies from cream to brown, and can be bleached to a light cream shade at 50°C and a pH of 9-9.4. —WHC

• Hilton-Davis to Join Indian Firm in Erecting Dye Plant in Bombay

The Hilton-Davis Chemical Co, a subsidiary of Sterling Drug Inc, Cincinnati, O, and Amritlal and Co, Ltd, Bombay, India, have jointly announced completion of an agreement to erect a plant for the manufacture of textile dyestuffs on the outskirts of Bombay.

Construction of the plant is expected to get underway shortly, it is reported by James F Thompson, vice president of Sterling and general manager of Hilton-Davis, and J H Doshi, managing director of Amritlal. The negotiations leading to the agreement were conducted here by Mr Thompson; Nelson S Knaggs, Hilton-Davis vice president in charge of sales; and Mr Doshi. The necessary manufacturing license for the plant has already been obtained from the Indian Government, according to Mr Doshi.

Under the arrangement between the two companies, the plant will be operated by Amritlal under the name of Amar-Dye Chem, Ltd. Mr Knaggs, who has had business dealings for many years with Amritlal, has been named a director of the new company. The plant will ultimately manufacture the same line of textile dyes presently being produced by Hilton-Davis in the United States. In the initial stages, however, production will consist of dyes of the naphthol series, fast bases, stabilized diazo compounds and intermediates.

Hilton-Davis will provide technical advice regarding construction and operation of the plant, as well as manufacturing and research techniques. It will send representatives to India in the next few months to assist in supervising construction of the new facilities and in launching manufacturing operations.

John Prichett, veteran Hilton-Davis chemical engineer, will head the technical section. To orient the Bombay company's personnel, Hilton-Davis has begun training a group of Indian technicians and chemists in Cincinnati. They are expected to remain for from four to six months.

Observing that India, in terms of value, has offered the largest market to foreign manufacturers for over half a century, the joint announcement by Hilton-Davis and Amritlal stated:

"The arrangement just concluded is a vital step forward in making India self-sufficient in synthetic textile dyestuffs. It is consequently a matter of great importance to the economy of India, whose dyestuff industry is linked up with technical progress in the entire organic chemical field, and is expected to help indirectly the development of many other industries."

A handshake symbolizes completion of an agreement between The Hilton - Davis Chemical Co of Cincinnati, Ohio, a subsidiary of Sterling Drug Inc, and Amritlal and Co, Ltd, of Bombay, India, to erect a modern plant for the manufacture of textile dyestuffs on the outskirts of Bombay. Shown are J H Doshi (left), managing director of Amritlal, and Nelson S Knaggs, Hilton-Davis' vice-president in charge of sales, both of whom are directors of Amar-Dye Chem Ltd, the new Bombay company.

The projected plant will be located approximately 50 miles from the city of Bombay, largest textile center in the country, on a site measuring about 100 acres. It will be built according to American design standards to be drawn up by the New York consulting engineer firm of P Kretzer & Son, Inc, which has done extensive building in the Near East. A large part of the necessary machinery and equipment is to be fabricated in India. Vital equipment not available there will be purchased elsewhere, it was pointed out.

• Stein-Davies Celebrates Golden Anniversary

The Stein-Davies Company, the chief manufacturing subsidiary of Stein-Hall & Co, Inc, and one of the pioneer dextrine enterprises in the U S, is currently celebrating the 50th anniversary of its founding in 1904 in Long Island City, N Y. At that time Leo Stein and Frank G Hall joined forces with Samuel D Davies, who had come from Scotland, where the dextrine industry originated.

As the demand for dextrines increased, the Company continued to grow, and in recent years food and ice cream stabilizers, paper makers' additives, liquid glues and latex compounds were added to the company's line. The entire production of the Long Island City factory is sold through the Stein-Hall organization.

Lawrence Gussman now serves The Stein-Davies Company as president.

• Auer Granted New Patent

The granting of a new patent to Laszlo Auer, president of Aula Chemicals, Inc, Elizabeth, N J, is said to place the Aulabrite water-dilutable pigment printing colors on a competitive plane with solvent-dilutable water-in-oil emulsions.

U S Patent 2,681,322 covers the preparation of oil-in-water resin emulsion textile printing colors. It describes the application and use of various resin binders, such as fatty acid modified styrenated alkyd resins, styrenated fatty oils, and pentaerythritol-glycerin mixed esters of maleic anhydride-treated fatty acids.

Colors produced according to the method specified in the recently granted patent are said to have achieved brilliant prints with extremely high color strength and excellent fastness properties combined with economy in their use.

• Westvaco Increases Phosphate Rock Reserves

Westvaco Mineral Products Division, Food Machinery & Chemical Corporation, New York, has acquired extensive deposits of high-grade phosphate rock and shale in Rich County, Utah, thereby adding millions of tons to their existing phosphate rock and shale reserves. Economic evaluation and exploratory development work leading to this acquisition was done by Westvaco's Mineral Development Department under the direction of O A Powers at Pocatello, Idaho.

• AAP Moves Philadelphia Office

American Aniline Products, Inc has completed removal of its office in Philadelphia to newer, modern quarters at 1649 North Broad Street.

The Philadelphia operations of the company are under the supervision of Robert N Armour, vice president.

• New Lanolized Licensees

Three more mills have been licensed to apply Lanolized process to hosiery. The new mills are Rosedale Knitting Co, Reading, Pa; Evenknit Hosiery Mills, Bay City, Mich; C W Anderson, Clinton, S C.

• Sinclair Chemicals Relocates

Sinclair Chemicals Inc, a subsidiary of Sinclair Oil Corp, has moved its offices to the Sinclair Oil Building, 600 Fifth Ave, New York 20, N Y from its former address at 6 East 45th St, New York. The telephone CI 6-3600 remains unchanged.

• NYPC Announces Plans for New Season

The New York Pigment Club, which was founded in October, 1953, has announced the following program of meetings for the next five months:

Sept 9—"Light Stability of Pigment Colors"—S R Benson, Sherwin-Williams Co

Oct 14—"Metallic Pigments"—A F Knoll, Metals Disintegrating Co

Nov 10—"Organic Pigments" — L S Pratt, General Aniline & Film Corp

Dec 9—"Iron Oxide Pigments"—I C Clare, C K Williams & Co

Jan 15—Annual Meeting—Election of Officers and Dinner-Dance

The Club now has 75 members representing 38 companies. Persons wishing to attend its meetings or join are urged to contact the secretary: Emil A Wich, 435 Hudson St, New York 14, N Y.

• New Allied Facilities

Allied Chemical & Dye Corp has negotiated a lease of quarters on the 21st floor of the new building at 261 Madison Ave, New York, as headquarters for Allied Chemical Nylon sales and service, National Aniline Division. Until the new offices are ready for occupancy, the Fiber Sales and Service Department will continue to be quartered in National Aniline's principal offices at 40 Rector St, New York.

Another Allied division, the General Chemical Division, has completed the transfer of its research laboratory from Laurel Hill, Long Island City, N Y, to large new facilities at Columbia Rd, Morris Township, N J. Future communications should be addressed to P O Box 405, Morristown, N J. Phone: MO 4-8000.

• 400 Attend CCNE Baseball Party

Approximately 400 members and guests were in attendance last month as the Chemical Club of New England, Inc held its 6th Annual Baseball Party, which began at Fenway Park, Boston, with a game between the Boston Red Sox and the Cleveland Indians.

Following the game the group adjourned to the Hotel Somerset for dinner and a baseball program featuring sports announcer Curt Gowdy and baseball players Jackie Jensen and Sammy White.

Arrangements were handled by chairman John E Upham, Jr, Hercules Powder Co; Thomas J Desmond, Du Pont, and William B Sinclair, Celanese Corp of America.

• Capacity Attendance Anticipated at DCAT's 64th Meeting

A capacity attendance of over 300 members is expected at the 64th Annual Meeting of the Drug, Chemical and Allied Trades Section of the New York Board of Trade, to be held at Pocono Manor, Pa on Sept 23-26, according to DCAT chairman Stanley I Clark, vice president, Sterling Drug Inc.

Committees have been named for the following activities: banquet, business program, golf, ladies golf, memorials, ladies card party, miscellaneous sports (archery, croquet, horseshoes, putting, shuffleboard), reception, entertainment, fellowship, and registration.

• USDA Contracts for Research on Developing Cotton Fabrics with Better Drape

The U S Department of Agriculture has contracted to have the Fabric Research Laboratories, Boston, Mass, develop cotton fabrics having significantly improved draping qualities for specific clothing and household uses. The contract, made through USDA's Southern Utilization Research Branch in New Orleans, and authorized under provisions of the Research and Marketing Act of 1946, is scheduled for a period of two years.

This research is a part of the research program of the Southern Utilization Research Branch to improve and extend the utilization of cotton. Chauncey C Chu is the project leader for the Fabric Research Laboratories. R J Cheatham is the project leader who will co-ordinate the details of the contract between FRL and the Department of Agriculture.

• Nopco Continues Canadian Expansion

Yocum Faust, Ltd, a wholly-owned subsidiary of Nopco Chemical Company, Harrison, N J, has awarded to a large Canadian construction company a contract for an additional manufacturing unit to be erected on their land at the London, Ontario plant. According to T A Printon, president of both companies, ground has already been broken; and the new $250,000, four-story, fire-proof structure will be erected as fast as men and materials are available.

It is anticipated that in addition to products of Yocum Faust, Ltd, certain others of Nopco Chemical Company (Canada) Ltd will be manufactured in the new facilities. Nopco recently formed this Canadian Company.

• New G E Division Formed

The formation of the Chemical and Metallurgical Division within the General Electric Company has been announced by Robert Paxton, executive vice-president of the Company. The new Division includes the former Chemical Division and the Carboloy Department.

Concurrently, Mr Paxton announced the appointment of Robert L Gibson as general manager of the new Division. Mr Gibson will make his headquarters in Pittsfield, Mass.

Under the new organization arrangement, the former Chemical Division's four operating departments will remain unaffected; their general managers will continue to report to Mr Gibson. The Chemical and Metallurgical Division will be made up of five operating departments: Carboloy, Plastics, Silicone Products, Chemical Materials and Laminated & Insulating Products.

Kenneth R Beardslee will retain his present post as general manager of the Carboloy Department. The Carboloy Department, which was formerly the Carboloy Company, has its headquarters at Detroit, Michigan, and operates plants in that city and at Edmore, Michigan.

Chemical Materials and Plastics Departments are headquarters at Pittsfield, Mass, while the Silicone Products and Laminated & Insulating Products Departments are headquartered at Waterford, N Y, and Coshocton, Ohio respectively.

• FDC Begins Fall Semester Textile Courses Sept 15

Day and evening courses in the Textile Department of Fairleigh Dickinson College, Rutherford, N J, will begin on Wednesday, Sept 15, marking the seventh year of the Department's operations.

Courses offered include Dyeing, Finishing, Textile Chemistry, Raw Materials, Identification, Analysis and Testing.

Registration is now under way, and complete details are obtainable from the College.

• New Scholarship for N C State

The North Charlotte Foundation, Inc, of Charlotte, N C, has established a four-year scholarship in the School of Textiles at N C State College and has named Bobby Lynwood Hubbard of Charlotte as the 1954-55 recipient.

The scholarship will be awarded annually to the son of an employee of the Highland Park Manufacturing Company or the Johnston Manufacturing Company, supporters of the Foundation.

The North Charlotte Foundation was chartered in 1945. Its president is David R Johnston of Charlotte.

• Inviations Extended for "All Textile" Project

More than 150 organizations recently were invited to appoint representatives to participate in the development of the "All Textile" project for fabrics and products. The invitation was made through the American Standards Association by the chairman of the project committee, Irwin D Wolf, chairman, Executive Committee, National Retail Dry Goods Association.

The project, known as L25, is sponsored by NRDGA, under the auspices of the American Standards Association. Work will be based on L22, (1952) American Standards for Rayon and Acetate Fabrics, and will cover the development of standards including test methods according to end-use performance requirements. Specifications will be for fabrics and products made from both natural and synthetic fibers to be used in wearing apparel and home furnishings.

J Gordon Dakins, executive vice president and treasurer NRDGA, which also sponsored L22, pointed out that the new project will lay the foundation for ". . . stopping dissatisfaction of the consumer with excessive shrinking, loss of colors or permanency of finish."

The invitation went to national organizations representing retailers, wearing apparel manufacturers, home furnishing manufacturers, converters, wholesalers, finishers and dyers, fiber and yarn producers and distributors, laundry and drycleaning groups, consumers, governmental agencies and scientific organizations.

Other organizations concerned and who are national in scope but who have not received an invitation, may secure representation on L25 by contacting the American Standards Association, 70 East 45th Street, New York 17, N Y.

• NETF Revises Scholarship Plan for '55

Winners of New England Textile Foundation Scholarships in 1955, and for succeding years until further notice, will receive their awards under a new plan recently announced. Henceforth, for each of the four college years, winners will have their tuition paid in full and will receive in addition $250 in cash to apply toward other college expenses.

Intention of the new NETF scholarship plan is to eliminate financial distinctions that might influence a student's choice among the four New England textile colleges.

Applications for NETF scholarships to be awarded in 1955 to winners in the competitive examination scheduled for March 13, 1955 are now being received. Closing date for such applications is January 15th. Blanks are available from the New England Textile Foundation, 31 Canal St, Providence 6, R I.

• ITT, Fulton Bag and Monsanto Enter Agreement

An agreement to investigate both the cyanoethylation of cotton fabric and its uses has been entered into by the Institute of Textile Technology, Charlottesville, Va; Fulton Bag and Cotton Mills, Atlanta, Ga; and Monsanto Chemical Company, St Louis, Mo, according to an announcement by H E Morris, associate director of research of Monsanto's Plastics Division.

An experimental unit will be installed at Texas City, Tex, shortly, Morris said, to produce quantities of treated cloth for extensive field evaluation in co-operation with Fulton Bag and the Institute. Laboratory studies are nearing the completion on the process, which involves the reaction of cotton with acrylonitrile to produce new textile fibers. Acrylonitrile is a product of Monsanto's Plastics Division.

Extensive development work on this process has been carried out at the ITT under the supervision of Jack Compton, technical director.

• CCNY Textile Center

Textile executives and City College officials are co-operating in setting up a new Textile Center at CCNY. Steering, curriculum and promotion committees have been formed to expand the textile program and to keep the college advised of the needs of the textile industry.

The purpose of the Center will be to provide New York City with a comprehensive training program for newcomers to the textile industry, as well as for the advanced education of those already in the field. The program will provide the student with technical background for careers or job advancement in converting, selling, merchandising and designing of textile products.

The schedule of Fall courses to be offered includes Basic Textiles, Converting, Wool and Wool Blend Fabrics, Rayons and Synthetics, Basic and Advanced Design and Weaving, Textile Merchandising and Promotion, Salesmanship, Marketing, Exporting, and Textile Testing. Allied courses are also offered in Human Relations, Executive Leadership, Speech Improvement, Production Control, Commercial Financing and Factoring, and Controls for Marketing. Each course meets 2 to 4 hours, once a week for a period of 15 weeks.

Students who complete 450 hours of instruction in a planned program will be awarded a Certificate of Achievement in Textiles. Students may also register for the new Associate in Applied Science Degree, taking approximately 20 of the 64 credits required in textile courses.

The Fall terms starts on Sept 20th. Registration will take place at Bernard M Baruch School of Business, The City College, 17 Lexington Avenue at 23rd Street, Sept 15-17, 6:00 to 8:00 pm.

• Plans for New Du Pont Research Lab Revealed

Plans for a research laboratory devoted exclusively to industrial products were announced last month by Du Pont's Textile Fibers Department.

To be known as the Industrial Products Research Laboratory, it will be located at Newport, Del, occupying approximately 15,000 square feet in the buildings which formerly housed the department's textile research facilities. Nearly $300,000 will be spent initially to renovate the Newport site and install special equipment needed for this research effort, it is reported.

The new laboratory will develop additional industrial uses for Du Pont fibers as well as establish research objectives for the development of new fibers. Approximately 40 people will be assigned employment in the new laboratory.

Until the Newport location is ready for use in several months, limited industrial products research will be conducted at the Chestnut Run Textile Research Laboratory.

In announcing the new laboratory, the Textile Fibers Department also said its Textile Research Division will become the Textile and Industrial Products Research Division, combining the efforts of both textile and industrial products research.

The enlarged division will be headed by Howard W Swank. Linton G Ray will continue as director of the Textile Research Laboratory at Chestnut Run and John M Swanson has been appointed research manager for the newly formed industrial products research group at Newport.

• 3rd Annual Management Forum, NIRC

The cleaning and handling of cotton and synthetic floorcoverings will occupy the entire time of the Third Annual Management Forum of the National Institute of Rug Cleaning at Silver Spring, Md. The forum will be held on Friday and Saturday, Sept 17 and 18.

The increased use of cotton and synthetic face yarns in rug and carpet construction and the cleaning demands brought about by these and other technological developments have become a dominant interest to many professional rug cleaners.

James W Rice, NIRC director of research, will report on testing done on various fibers in recent months. He will also lead discussions on some of the problems submitted for study by members in the field.

Harold H Eigensee, NIRC president and owner of Borchers Carpet Cleaning Company, Columbus, O, will preside over the forum.

Registration at the forum will be restricted to members of NIRC.

NEW PRODUCTS AND DEVELOPMENTS

• AAP Develops New Dyestuffs for Dacron

American Aniline Products, Inc, as the result of extensive research and development work carried out to provide excellent fastness properties for dyed Dacron, has announced a new line of dyestuffs—the Amacron* dyes.

One of the paramount end-use requirements of Dacron is fastness to light, and the Amacrons are reported to be excellent in this field. For the straight Dacron or Dacron blends designed for the suiting industry, fastness to sublimation is important. Here too, these new colors are said to be outstanding. It is suggested that their excellent fastness to washing even at 170°F should make them highly acceptable for blends of Dacron and cotton, a more recent addition in the field of blends.

AAP's initial range of colors is composed of the following shades: Amacron Yellow GLS (lemon yellow), Amacron Orange LS (rust), Amacron Red BLS (blush red), Amacron Red Violet LS (red-violet), and Amacron Blue RLS (reddish blue). Mode shades, such as tans, chocolate browns, bottle greens, navies and blacks, may be produced with combinations of these straight colors.

These colors may be applied by conventional "carrier" methods or in pressure equipment at elevated temperatures (250° F) without carriers.

* T M Regis Pending

• Wixyn 100

Wica Chemicals, Inc, Charlotte, N C, has announced the development and introduction of Wixyn 100, a nonionic 100%-active synthetic organic detergent, which is said to provide a maximum degree of soil-suspending and soil-removal properties under a wide variety of conditions. Wica points out that its low sudsing characteristic, solubility and effectiveness in hard and soft water and compatibility with hydrocarbons, esters and mixed solvents offer the wet procesor a versatile agent.

Wixyn 100 is said to be efficient at much lower temperatures than are ordinarily employed, is nonsubstantive and rinses freely, leaving no film on fabrics. According to the manufacturer, it is excellent in desizing and scouring synthetics since its ability to wash at low temperatures makes it particularly effective.

It is stated that, in soaping off prints, sharply defined colors are obtained due to the outstanding suspending properties of Wixyn 100 at small concentrations of use.

(Photo, Armco Steel Corp)

One of a battery of six Morton package dye machines at Louisville Textiles, Inc, Louisville, Kentucky. The machines were made of Type 316 stainless steel sheets and plates. The units have been operating at 45 pounds pressure per square inch and 60 pounds pressure per square inch for five years. The mill reports completely satisfactory service from the machines.

• Fugitive Tints for Natural and Synthetic Fibers

Charlotte Chemical Laboratories, Inc, Charlotte 1, N C, has obtained a license from Edward A Murray, chemical engineer and textile consultant of Anderson, S C, to manufacture and sell a new line of tinting colors for natural and synthetic fibers.

The new tints, for which patents have been applied, are said to be more generally fugitive, even after steaming, than those which have been available to the industry in the past. These colors, known as "Rinsefree" tints, are supplied as concentrated water solutions ready for dilution and application to the stock by conventional methods. No special preparation or application techniques are required.

• Crease-Resistant Interfacing

Following intensive research with various fabrics, Kendall Mills is introducing its new resin-treated product, known as "Kendall Crease-Resistant Interfacing," to the women's wear trade in one weight and three finishes—soft, medium and firm. Initial colors are white, grey and sulfur black. The finished width is 40", and it is packed in 150-yard rolls unwrapped with 750 yards to the case.

Its shrinkage control, durability and uniformity are said to be superior. Other features include permanency and elasticity of finish, lightweight and porous character, resistance to mildew and moths, and fast-drying.

• New Onyx Stabilizer

CET, a stabilization medium that is said to offer complete shrinkage control of cellulosic fabrics—fabrics containing 50 percent or more viscose rayon or cotton, as well as all cotton—for their life, has been announced by Onyx Oil and Chemical Company, Jersey City 2, N J.

A water-soluble, cellulose-reactive, heterocyclic compound, CET reportedly has little tendency to resinify and thus achives unusual stabilizing effects on both rayon and cotton with little of the embrittling or stiffening effects ordinarily associated with resin treatments.

CET is said to offer substantially complete stabilization to high-temperature commercial laundering and it is claimed that, after initial shrinkage of 0-2 percent in the first laundering, the fabric will not shrink further through an indefinite number of launderings.

The hand of the fabric is said to be substantially unchanged during this finishing, enabling the finisher to produce any required hand by the addition of other finishes with which CET has compatibility. Stabilization is achieved with little or no loss in tensile strength.

Dissolving instantly in water, CET, together with its catalyst, is added in predetermined amounts, precluding subsequent adjustments or control of pH. CET may be employed in conjunction with conventional finishing equipment.

• Aula Introduces New Series of Extender Clears

As a result of intensive research work in the field of water-dilutable resin emulsions for textile printing and dyeing, Aula Chemicals, Inc, 714 Division St, Elizabeth, N J, has introduced their 900 Series Hand Rub Washfast Extender Clears.

According to Laszlo Auer, Aula president, the new Hand Rub Washfast system is believed to be the first pigment-printing system that is completely fast to the severe wet abrasion of hand laundering, while maintaining print paste stability and color brilliance.

The Hand Rub Fashfast system is prepared by using Aulabrite color concentrates together with newly developed clear emulsions. No special techniques or equipment are required to prepare the print pastes and conventional printing procedures are suitable in obtaining prints of outstanding fastness properties, it is claimed. The decorated textile fabrics are said to withstand severe abrasion in laundering.

Bulletin No. 15, available from Aula on request, describes the new system in detail.

• Verona Distributing Sirius Colors

Among the outstanding colors being distributed by Verona Dyestuffs, a Division of Verona Chemical Co, are Sirius Supra Green GTL and Sirius Supra Yellow GD, products of Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany.

Sirius Supra Green GTL is a new homogeneous dyestuff giving a covered green shade on cotton and other vegetable fibers, and also on viscose and cuprammonium filament or spun rayon. Its chief advantage is said to be its particularly good fastness to light. It is also said to be characterized by good migrating and yellowing powers, while its fastness to wet processing attains the normal standard for direct dyestuffs. The manufacturer points out that wet-fastness properties of the dyeings can be considerably improved by an aftertreatment with Levogen WW with little effect on the fastness to light.

Good tone-in-tone shades are said to be obtained with Sirius Supra Green GTL on mixed fibers made from cotton and viscose rayon, while acetate rayon effects are left unstained (type 8000). Natural silk can be dyed from an acetic acid bath. When union material or mixed fabrics made from wool or spun rayon is dyed, the wool is stained far less heavily than the cotton. It is pointed out that with an addition of Mesitol WL, the wool is practically unstained.

Sirius Supra Yellow GD, a direct dyestuff of very good dischargability, reportedly gives clear yellow shades of good fastness to light on cotton and other vegetable fibers, and also on filament and spun rayon. Its fastness to water, washing and perspiration is said to be really high for a direct color. Aftertreatment with Levogen WW is said to improve the wet fastness properties without causing any significant change of shade.

Sirius Supra Yellow GD reportedly shows good leveling and migrating powers and can also be used as a component for beige and lime shades. In combination with Sirius Supra Green 6BL highly fast-to-light green shades are obtained.

The manufacturer emphasizes that Sirius Supra Yellow GD is particularly important for the production of discharge grounds, as the dyeings show very good neutral and alkaline dischargability. On mixed fabrics made from cotton and viscose rayon very good tone-in tone shades are obtained, while acetate rayon effects are left sufficiently unstained (type 8000).

For vulcanizing styles this dyestuff is supplied as Type No. 8015 sufficiently free from copper and manganese.

Natural silk can be dyed in an acetic acid bath.

When used for the dyeing of union or mixed fabrics made from wool and spun rayon, Sirius Supra Yellow GD causes some staining of the wool, but with an addition of Mesitol WL the wool is practically unstained.

Details regarding the most important properties of these colors, as well as suggested dyeing methods and dyeing samples, are covered in *Le 295 e*, and *Le 332 e*, which may be obtained from Verona Dyestuffs, Springfield Rd, Union, N J.

• Several New Products Announced by National Aniline

National Aniline Division, Allied Chemical & Dye Corporation, 40 Rector St, New York 6, N Y, is now producing Nacconol SL, a new liquid form of Nacconol synthetic detergent. It is described as exceptionally light in color, with a pleasant characteristic odor, a very low hazepoint, no preciptation at temperatures down to freezing and a low salt content. Samples may be obtained from the manufacturer on request.

Additional product news from National Aniline concerns the addition of several new dyestuffs, which the Division describes as follows:

National Fast Light Yellow 2GML is the latest addition to National's line of acid dyes. When applied to wool from a bath acidulated with sulfuric acid it produces moderately bright shades of clear yellow. It may also be dyed from weak acetic acid dyebath and possesses fair affinity for wool in a neutral bath. This product has excellent fastness to light and very good fastness to water, sea water and perspiration. National Fast Light Yellow 2GML is especially recommended for the coloring of carpet, bathing suit and sweater yarns.

National Carbanthrene Olive TR Paste, a recent addition to National's line of anthraquinone vat dyes, produces, on cotton and rayon, olive-gray shades of a reddish cast. It is applicable by all the usual methods of dyeing either in a reduced bath or the various pigment impregnation methods. Materials colored with this product are characterized by excellent fastness to light, washing, perspiration, water, stoving, cross dyeing and mercerizing and very good fastness to alkalis, acids, boiling soap, chlorine, rubbing and hot pressing. These superior fastness properties render Carbanthrene Olive TR Paste of great importance in the production of the various government shades. It is obvious that this dyestuff is a valuable component in the production of various shades of grey, tan, khaki, olive and green tones wherever superior fastness properties are demanded.

National Carbanthrene Yellow 3R Paste, one of the latest additions to National's line of anthraquinone vat dyes, produces, on cotton and rayon, very reddish shades of yellow. An IW group dyestuff, it reduces readily at 140°F in a moderately alkaline bath to a dull red leuco. When applied from a reduced bath it is usually dyed at 120°F with the addition of common salt to the dyebath, but it may also be applied by the various pigment impregnation methods. This product has excellent fastness to light, washing, boiling soap, chlorine and peroxide bleaching, stoving, mercerizing and perspiration. Itis practically unaffected by resin finishing for crease resistance and may be used to color materials that are to be rubberized.

National Alizarol Brown DKL, the latest addition to National's line of chrome dyes, possesses excellent solubility and is applicable to wool by the top-, meta- and bottom-chrome methods of dyeing. Applied to wool by the top-chrome process, it produces medium shades of brown, by the meta-chrome process, the shade is slightly redder, but when dyed bottom-chrome the shade is considerably yellower and duller. It exhibits good fastness to light and very good to excellent fastness to washing, perspiration, cold and sea water bleeding, carbonizing and drycleaning. This product's outstanding characteristic is its very good fastness to cross dyeing. The results of laboratory and mill trials indicate that it is a very superior product in this respect.

National Solantine Violet BL, a recent addition to National's line of fast-to-light, nondusting direct dyes, produces on cotton and rayon moderately bright shades of bluish-violet. It is only slightly affected by the presence of metals in the dyebath, reserves acetate and can be applied at low temperatures. This dye is recommended for coloring mixtures of cotton and wool and also viscose and wool, since the wool is tinted fairly close in character of shade, though lighter than cotton and viscose.

National Niagara Blue BVW is another new addition to National's line of nondusting direct dyes. This very soluble dye produces, on cotton and rayon, moderately bright medium shades of blue possessing very good fastness to washing and excellent fastness to perspiration, cold and sea water bleeding and spotting as well as mercerizing. Aftertreatment with formaldehyde and acetic acid improves the washing fastness and does not impair its fairly good light fastness, nor its excellent dischargability with either alkaline or neutral pastes. Aftertreatment with National Naccufix in conjunction with urea-formaldehyde resins for crease resistance improves the fastness to light considerably and the fastness to washing to the extent that it becomes comparable to some of the vat dyes. It should be noted that this is one of the fastest to washing direct dyes.

National Niagara Fast Copper Blue R is a very soluble, nondusting direct dye recently added to National's line. It produces, on cotton and rayon, reddish shades of moderately bright blue. However, it is seldom employed as a simple direct dye, but is usually aftertreated with either copper sulfate or National Naccufix. Copper aftertreatment results in greener shades of blue possessing very good light fastness. When aftertreated with National Naccufix, either alone or in conjunction with urea-formaldehyde resin finishes for crease resistance, it exhibits very good to excellent light fastness and washing fastness equal to that usually associated with developed dyes.

• Emkay Offers Rexodull CNY for Nylon Tricot

Rexodull CNY, a homogenized dispersion of titanium pigments combined in a cationic resin carrier and binder, has been developed by Emkay Chemical Co, Elizabeth, N J, as a delustrant for nylon tricot.

The product may be applied on a padder or quetsch or it can be exhausted in a dye back. It reportedly produces a durable dullness resistant both to washing and to yellowing from heat and storage.

• Tar Specks Removed with Bradsyn Detergent Solvent

Bradsyn Detergent Solvent, a product which the Original Bradford Soap Works, Inc, West Warwick, R I, developed several years ago specifically to meet the problem of removing tar specks, loom stains and other greige mill dirt in normal bleaching and finishing operations, continues to solve the problem of tar-speck removal in cotton and blended fabrics.

In continuous bleaching operations, Bradsyn Detergent Solvent is applied to the goods either in the padder or quench prior to going to the J box without interrupting the normal flow of goods. After the J box the goods are processed in the normal manner through regular washers.

Bradsyn Detergent Solvent may also be applied in kier application by padding on a solution in the padder or quench prior to sending the goods to the kier. It is also possible to use it in a rope washer or in an open-width washer by applying a stock solution prior to processing.

• New BASF Products

Several new products manufactured by the Badische Anilin & Soda Fabrik AG, Ludwigshafen A Rhein, Germany, and sold by Nova Chemical Corp, New York, as their representatives in this country, have been announced to the trade. These include Siligen A, Uniperol W, Nekanil AC special, Neopilate Dyestuffs, Basolan Blue BGA Basolan Chrome Orange RM, Perliton Brown GR, and Palanthrene Cyanine B Double Paste.

Siligen A———Siligen A, a colloidal silicic acid dispersion, opens up new possibilities in the field of fiber oiling. It is applied together with the usual oils based on olein or mineral oil. It is designed to regulate the adhesion of all types of textile fibers and thus improve their spinning properties.

The main advantages of Siligen A in spinning are said to be 1) greater evenness and higher tensile strength of sliver and yarn; 2) less sliver and thread breakages; 3) facilitated spinning of lofty weft and knitting yarns; 4) higher production in spinning, and 5) reduced spinning waste.

Uniperol W———Uniperol W is a new type of dyeing auxiliary developed in the Application Techniques Department (Aweta) of the BASF specially for dyeing with "Neopilate" colors, a new range of metal complex dyestuffs of the BASF which are applied to wool from wreakly acid baths. It is a brownish colored paste, which is said to have very good protective colloid and levelling action, not merely on Neopilate dyestuffs, but on all kinds of metal complex dyestuffs having affinity for wool. This auxiliary reportedly has only weak foaming properties and no detergent action. Thus, it is claimed that the use of Uniperol W even at boiling temperature will not cause excessive degreasing of the wool fiber, and will not impair the handle. Uniperol W can also be used for levelling out or lightening dyed goods which have turned out uneven or too dark.

Nekanil AC special (Auxiliary for washing and dyeing wool, wool unions, Perlon, nylon, etc) ———Nekanil AC special has established itself for precleansing acetate and as auxiliary for dyeing acetate with dispersed dyestuffs. A special leaflet has been issued describing its application in the precleansing and dyeing of wool, wool unions, Perlon, nylon, etc. This product is used for cleansing the goods to be dyed; as levelling agent for dyeing with acid, chrome complex, chrome, union, and dispersed dyestuffs; for levelling out uneven or unsatisfactorily penetrated dyeings; and for stripping or lightening dyed goods which have turned out too dark.

Nekanil AC special belongs to the class of dyeing auxiliaries which have affinity for the dyestuff.

Neopilate Dyestuffs ——— Neopilate dyestuffs are a new type of metal complex dyestuffs developed by the BASF for application to wool in practically any stage of processing. They are applied by a dyeing process which does not impair the quality of the wool fiber. The range comprises at present the following brands: Neopilate Yellow G, Neopilate Orange GR, Neopilate Red GG, Neopilate Claret 3B, Neopilate Violet B, Neopilate Blue R, 3R, Neopilate Dark Blue G, and Neopilate Brown GR.

The following features of this new range of dyestuffs are cited by the manufacturer: 1) high fastness to light, 2) very good fastness to wet treatments, 3) outstanding levelling properties, 4) minimum strain on the wool fiber in dyeing, 5) extremely simple method of application from normal acid baths, with ensured good results in dyeing, and 6) maintenance of the elasticity of the wool fiber.

The application of the Neopilate dyestuffs is said to be considerably facilitated by the use of *Uniperol W*, an auxiliary which has been developed specially for this class of dyestuffs.

Basolan Blue BGA———As a supplement to their range of Basolan dyestuffs, the BASF have brought out this new acid dyestuff, which is said to be distinguished by its good fastness to light and fairly good fastness to wet treatments. It is pointed out that, in view of its especially good levelling properties, this dyestuff may be added to the boiling dyebath, and it is said to be suitable as self-color and as shading dyestuff for application to wool, silk, and Perlon or nylon. In printing, Basolan Blue BGA is recommended by BASF only for direct printing on wool, silk, and Perlon or nylon.

Basolan Chrome Orange RM ——— Basolan Chrome Orange RM is a homogeneous chrome dyestuff which may be applied by the afterchroming process for dyeing wool, Perlon or nylon, and by the metachrome process. It is said to possess outstanding fastness to light and, in view of its good levelling properties, is also suggested as a combination dyestuff for loose material, tops, yarn, and piece goods. When applied to Perlon or nylon, it reportedly exhibits practically the same fastness properties as on wool.

Perliton Brown GR———This new brown is said to be particularly suitable for producing clear, fashionable shades on Perlon or nylon hosiery. It is reported to have good fastness to light, good levelling, and all other properties required in hosiery dyeing.

Palanthrene Cyanine B Double Paste——— This new vat color represents a homogeneous vat dyestuff of excellent dispersion. It is said to produce a very bright greenish blue, considerably greener and brighter than other prominent brands in the vat color line. Classified in the group of the IN dyeing types, it reportedly can be used in all existing dyeing methods. It is also said to be suitable for printing according to the flash-aging method.

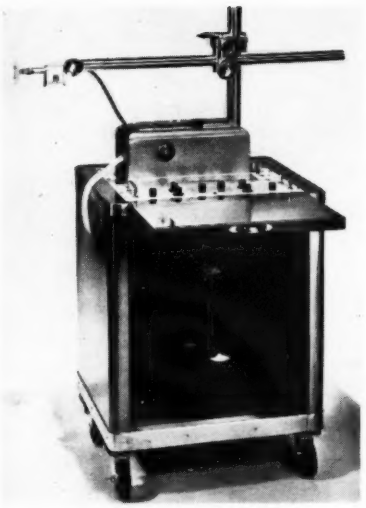
• Cost-Saver in Package Yarn Dyeing

A new method of yarn transfer announced recently by Yarn Transfer Devices, 2033 W Charleston St, Chicago 47, Ill, reportedly offers an important cost-saving advancement in package yarn dyeing. The new method has been made possible with the development of a patented transfer machine which is said to transfer mill-wound yarn packages from shipping tube to dyeing spring, without winding, at a rate between 3000 and 4000 pounds a day, regardless of yarn size. Operation of the machine requires only one unskilled operator.

The machine occupies about six square feet of floor space, and it is claimed that a single installation will replace about 400 spindles of high-speed spring-winding equipment, the skilled operators required to operate winding machinery and all supervisory personnel.

The machine is operated by an electrically controlled pneumatic system. Basically, the machine's operation reduces the diameter of the dyeing spring to permit insertion into the yarn package; simultaneously, with the insertion of the spring, the mill-wound shipping tube is removed, without damage to the tube itself.

By a different arrangement of the machine's operating spindles, and by substituting a shipping tube for the spring after dyeing, the reverse process reportedly may be accomplished. This factor is said to make possible reshipment of dyed yarns without the tedious process of rewinding. This reverse operation, too, suggests possibilities in the processing of synthetic, combination or high-twist yarns. Immediately after dyeing, substitution of a tube slightly smaller than the dyeing spring is easily accomplished. This change is designed to relieve any tension developed during drying; those fibers which have a tendency to shrink or harshen under heat are said to retain their feel, strength and elasticity.



BEC Tension Analyzer

• Tension Analyzer*

Brush Electronics Co has introduced the new Tension Analyzer, a device for measuring and recording instantaneous tension loads in filamentous materials, including all textiles. The new unit reportedly measures both static tension levels and dynamic tension variations while the material is running at high production speeds.

In operation, the filamentous material, whose tension is to be measured, is placed over the three pulleys of the transducer. The tension in the material causes mechanical displacement of the center pulley. These displacements, both static and dynamic, are converted into electrical signals which are amplified and recorded on the Direct Writing Oscillograph.

Special hardware and fittings have been designed so that the transducer may be positioned on any plane at levels of approximately one to eight feet above the floor.

A detailed description may be obtained from Brush Electronics Company, Equipment Department RT-2, 3405 Perkins Avenue, Cleveland 14, Ohio.

*Trademark

• Receiver-Integrator Unit Designed for Graphic Panels

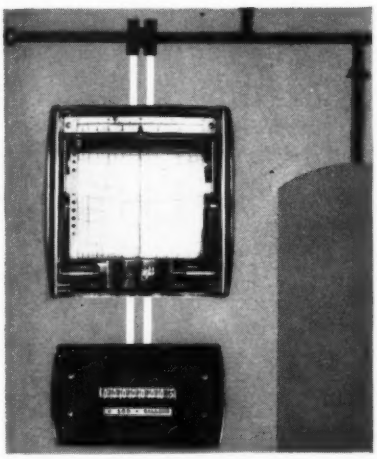
The Type 224 receiver-integrator for graphic panels, manufactured by The Foxboro Company, Foxboro, Mass, for use with the company's line of compact Consotrol instruments, computes a continuous total of any process flow and operates a small counter located in the graphic display.

The integrator consists of two small, self-contained units: a remote counter and a flow receiver. The counter can be mounted on the front of a panel, usually in conjunction with a Consotrol strip-chart flow recorder. It totalizes to eight digits (or to six digits with zero reset wheel) while occupying 3¼" by 5½" of panel space. The flow receiver unit, composed of a receiver bellows and a cam-switch assembly, is housed in a small metal box behind the panel. Two wires connect it to the counter.

In operation, pneumatic measurement signals (3-15 psi) from a flow transmitter at the process are received by the bellows which then positions the cam-switch mechanism. The cam-switch, in turn, produces an electric impulse to actuate the counter in constant relation to the flow measurement.

Integrators are available for uniform or square root scales to totalize minute, hourly or daily rates. Service calibration checks can be made during actual operation with no extra equipment required.

Developed chiefly for graphic-type panels, the Type 224 Receiver-Integrator is equally suited to control cabinet installations where compact instrumentation is desired.



Section of graphic panel shows Foxboro Model 53 Consotrol recorder and new Type 224 receiver-integrator (below).

• New Model U-V Lamp

A new Blak-Ray Model 3X-4 long wave ultra-violet lamp with important applications particularly adaptable to the textile industry, has been announced by Ultra-Violet Products, Inc, South Pasadena, Calif.

When directed at certain substances, the invisible "black light" rays cause fluorescense, whereby these substances radiate a color different from their own. Thus variations that are invisible, or nearly so, in ordinary white light, are said to stand out with startling clarity when exposed to the Blak-Ray. The lamps find application in 1) observing, analyzing and comparing materials, weaves, and dye lots, 2) inspecting for flaws and variations, 3) "invisible" marking during manufacture, 4) locating oil spots on fabrics and tracing to their origin, and 5) displaying and merchandising manufactured items.

Blak-Ray Model 3X-4 long wave u-v lamp

Blak-Ray lamps are Underwriters' Laboratories Approved, and are equipped with a self-filtering "Black-Light-Blue" tube that allows the long wave ultra-violet rays (3660 Angstrom Units) to pass through, but filters out the undesirable rays in the visible portion of the spectrum. No additional filters are required, and the cool-operating tubes are rated at 7500 hours. Recommended for use at low light levels, they do not, according to the manufacturer, require as great a degree of darkness as lamps using separate filters.

The new Model 3X-4 is priced at $39.75 complete with tubes. Full information on ultra-violet light and its application in the textile industry may be obtained by writing to Department ADR, Ultra-Violet Products, Inc, South Pasadena, California.

• Stauffer Offers PerchloroMethyl Mercaptan

Stauffer Chemical Company, 380 Madison Ave, New York 17, N Y, has recently increased its production facilities to offer commercial quantities of PerchloroMethyl Mercaptan (PMM), a reactive intermediate used in dyes or dye intermediates.

The primary chemical activity of PerchloroMethyl Mercaptan (PMM) centers about the reactive sulfur-linked chlorine atom. As a result, PerchloroMethyl Mercaptan (PMM) will react with amides, imides, olefins, thiols, xanthates, sodium alkoxides, and all amides. Substituted guanidines are also obtainable.

Copies of technical bulletin No. 531 can be secured by addressing a request to Stauffer Chemical Co.

• Irganol* Yellow 5GLS

Irganol Yellow 5GLS, a recent addition to Geigy Dyestuffs' line, represents the first yellow in their new range of Irganol dyestuffs for wool, silk and nylon. The characteristics and fastness properties of this new dyestuff, which produces bright, greenish shades of yellow, are similar in most respects to those of the previously introduced Irganols.

The manufacturer cites the following features: excellent resistance to light and wet finishing, excellent drawing properties in either weakly acidified or neutral dyebaths, ease of application and shorter dyeing cycles, and compatability of application with the Irgalan dyestuffs to extend the range of shades obtainable with this group.

Irganol Yellow 5GLS is especially recommended by Geigy for upholstery and automotive fabrics and carpets, particularly on mixed fibers containing wool or nylon where it is necessary to dye in a neutral bath.

Copies of Bull No. 60-G describing the new dyestuff are available from Geigy Dyestuffs, 89 Barclay St, New York 8, N Y.

* Reg trademark

• Stanset D40, Stanset LC

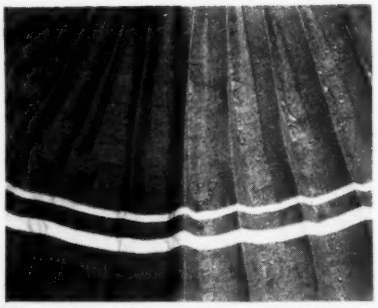
Standard Chemical Products, Inc, 1301 Jefferson St, Hoboken, N J, has announced two new chemical reactor resins for the creaseproofing of cotton products. They are being offered to the trade under the names, "Stanset" D 40 and "Stanset" LC.

Cotton fabrics finished with these new resins are said to be highly resistant to creasing, shrinkage and mildew, and reportedly will withstand repeated commercial laundering with chlorine bleaches, without noticeable yellowing or significant loss of tensile strength. The physical properties of fabrics finished with them are said to be excellent due to the wide range of curing temperatures permissible in their application. The curing temperatures reportedly may vary from 250-300°F at 70 to 90 seconds, to fit almost every fabric construction.

The new resins may be applied on conventional equipment.

• Energetic W-100

Armour & Company's Industrial Soap Dept, 1355 West 31st St, Chicago 9, Ill, has introduced a new companion to their Energetic and Energetic S products. Called Energetic W-100, the new wetting agent is also a liquid nonionic synthetic detergent. A 100% active, water-white, almost odorless liquid, Energetic W-100 is said to be particularly suited for dyeing, bleaching, package dyeing, wool scouring and desizing. It is available in 5- and 55-gallon steel drums.



Silicone-treated area of an all-wool garment (right) displays excellent water-repellency characteristics. Pleats and creases remain sharp and clean.

• Dow Corning 105 Emulsion Adds to Properties of Wool

Properties previously associated only with the "miracle fibers" can now be added to the natural excellence of wool, it is claimed, when woolens and worsteds are treated with Dow Corning Corporation's new Dow Corning 105 Emulsion. The new finish is said to cure in 10-20 minutes at temperatures as low as 250°F.

Dow Corning 105 Emulsion is said to add more apparent bulk to many constructions, while imparting a truly durable water repellency and a high order of resistance to staining by water-borne soils, since garments made of fabric finished with it are not wet by showers. It is claimed that creases are retained with less pressing and wrinkle resistance is improved. Tensile strength remains unchanged or is slightly improved, while flex abrasion is increased from 30-65%.

Of particular interest in connection with upholstery fabrics is the fact that Dow Corning 101 Emulsion is said to be the most oil-resistant silicone finish ever developed. Oily or greasy stains may easily be spot-cleaned from silicone-treated fabrics woven of wool, synthetic or mixed fibers without leaving a tell-tale solvent ring.

Dow Corning 101 Emulsion is reputed to be fully compatible with most conventional resinous finishing solutions. Available in the form of a stable, 40% silicone emulsion, its material cost is comparable to that of other Dow Corning textile finishes.

Further information may be obtained by requesting Data Sheet 8-210 (Silicone Notes) from Dow Corning Corp, Midland, Mich.

• New Waterproof Fabric "Breathes" for Comfort

A new waterproof fabric that "breathes," allowing perspiration vapor to escape, utilizes a new rubber-coating process known as "Aldair," for which the Aldan Rubber Co, Philadelphia Pa, is presently the exclusive licensee. The process was developed and patented by the Goodyear Tire & Rubber Co to meet the unusual climatic conditions encountered during the Korean emergency.

• C & R Tester in Production

Custom Scientific Instruments, Inc, Arlington, N J, is now in production on the C & R Tester, an instrument which combines a number of ASTM specifications for thickness measurements into one unit. By a selection of pressure feet this instrument reportedly will meet ASTM specifications for thickness for asbestos, knit goods, woven glass fibers, pile floor covering, backing, solid electrical insulation, paper, rubber, etc. After the thickness measurement the tester allows dead weight loads to be transferred from a ball-bearing support to the indenting plunger by means of a screw and handwheel without impact. In this manner, the compression is measured by reading the dial indicator. Removal of the dead weight allows the dial indicator to show the recovery.

This instrument has a ½ oz preload and a 5 lb maximum dead-weight load.

• Easy Removal of Aluminum-Base Bulbs from Sockets

Aluminum-base electric lamps subjected to the chemical fumes found in many textile wet-finishing plants are likely to stick so tightly in their sockets that it is almost impossible to remove them without breakage.

Aquadag, a dispersion of colloidal graphite in water, coated on the base threads of aluminum-base lamps is said to prevent this seizure, which results primarily from the high reactivity of aluminum. The lubricating quality of the colloidal graphite reportedly reduces static friction, corrosion or galling between base and socket so that bulbs can be unscrewed easily. Aquadag is said to be readily adsorbed on metal surfaces, is a good conductor of electricity and has a negligible coefficient of expansion.

Aquadag is a product of Acheson Colloids Company, Division of Acheson Industries, Inc, Port Huron, Mich.

• Tri-Vac Safety Rubber

A Neoprene safety rubber with Tri-Vac sole, manufactured by Tingley Rubber Corp, 903 Ross St, Rahway, N J, fills industrial needs with a squeegee action of concentric suction cups to prevent slipping.

The rubber is molded in one piece with no fabric lining; is light in weight (only 9 ounces) but tough. A big advantage is the rubber's great stretchability, allowing three sizes to fit virtually all shoes: "small" for sizes 6 to 8, "medium" for 8 to 9½, and "large" for 9½ to 12. The satin-smooth interior slips on and off easily, can be turned inside out for thorough washing, yet elasticity of the Neoprene prevents the rubber from pulling off the heel accidentally.

• Interest in New Butterworth Machinery Widespread

Three new machines announced by H W Butterworth & Sons Co, Bethayres, Pa, just prior to the 1954 American Textile Machinery Exhibition, continue to evoke considerable interest in the trade, according to latest reports.

BENNINGER PRESSURIZED DYE JIG———Rumors of results achieved with this new Swiss-made machine have been current in the industry since the first model was installed in a New Jersey finishing plant about a year ago. This machine is equipped with the same driving mechanism as the standard Benninger jig. Enclosure is stainless steel with a heavy stainless steel lining and is designed to withstand maximum pressure of 28 psi. It is used primarily for dyeing cloth woven of synthetic yarn, such as Dacron, nylon, etc. With the new unit, color penetrates the fibers instead of merely coating them. It finds application in dyeing batches up to approximately 27" dia, 63" useful width. Foundation frame of section iron carries the gear box and the kier, one boiling kier in two parts with two main rolls of approx 8" diameter with stainless steel covering, guide roll of stainless steel, balance expanding device, twelvefold coil for indirect steam or hot water heating with cover-lifting device.

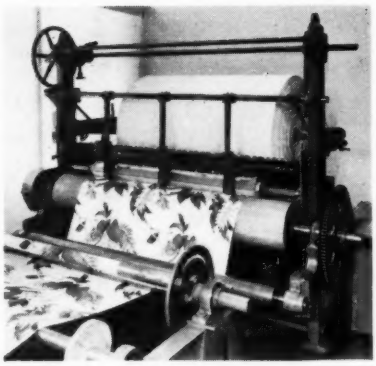
TENSIONLESS OPEN - WIDTH WASHER———This machine comprises a new design incorporating a patented drive. Cloth enters through two rubber-covered rolls and then goes through a series of stainless steel rolls—10 across the top of the box, and 10 across the bottom of the box. Top rolls are driven by the patented drive so that there is never any tension on the fabric. Goods are held in a relaxed condition because all top rolls are driven at a constant speed.

After passing over the last roll, the goods are passed over an expander or bow bar and then passed through two rubber-covered rolls to a winder.

Bearings used in the washbox are specially adapted Parock rubbergraphited bearings.

EMCO ROTARY CUTTER WINDER ———This machine incorporates several new and exclusive features. The cutting device is made of numerous discs, 3" in diameter and having 24 teeth per disc. The cutters are driven by electric motor and can cut materials at high or low speeds—even when material is stationary.

The Emco has roller bearing jaws and roller bearing arms with a double release that provides a straight drop. Splicers and fingers start the cut end of material on a new shell without use of a wetting agent.



Emco Rotary Cutter Winder

The Emco winds and cuts rolls of 12" minimum diameter and enables a manufacturer to handle short run batches. It can be furnished to wind a soft roll, and it can wind and cut a wide variety of materials—including marquisette, bagging, 10-ounce duck, open weave, heavy and loosely woven materials. It cuts double-double sheeting at maximum recommened speed of 75 rpm.

• Cerfak 1400, Antistatic Agent 575

E F Houghton & Co, 303 W Lehigh Ave, Philadelphia 33, Pa is currently offering technical information relative to two of their latest developments — Cerfak 1400, a nonionic surface-active agent, and Antistatic Agent 575.

Cerfak 1400 is said to combine outstanding detergency value, fast wetting ability, long life and stability. A highly concentrated, colorless liquid that is said to mix quickly and thoroughly in any proportion with water, Cerfak 1400 is effective over the entire pH range. It is claimed to be highly efficient in low concentrations.

Antistatic Agent 575 is designed to eliminate or greatly reduce processing difficulties caused by friction-formed static electricity in the treatment of synthetic fibers (except acetate), blends, and natural fibers. A water-soluble liquid which forms a semitransparent solution when made up for use, Antistatic Agent 575 reportedly can be used in conjunction with processing oils or stock lubricants in practically any operation.

Although individual operating conditions govern the amount of Antistatic Agent 575 needed, it is claimed that economical concentrations in the .1% to .4% range usually provide excellent static control. The material can be applied to the fiber in any convenient manner, such as by spraying, sprinkling, dipping, padding or dripping.

• 10th Cyanamid Leuco Ester Color

A new soluble vat dye, Calco Soluble Vat Brown BY, which extends its present line of leuco ester colors to ten, has been announced by the Dyestuff Department of American Cyanamid Company, Bound Brook, N J.

Calco Soluble Vat Brown BY is a versatile printing color suitable for roller or screen printing on cottons and viscose alongside azoics, pigments or other soluble vats where acid aging is used, according to Cyanamid.

The manufacturer states the new dye has excellent leveling properties for the dyeing of cotton, rayon and linen dress goods and shirtings. It reportedly shows a solid surface appearance when used on tightly woven cotton fabrics, slub weave rayons and mercerized broadcloths.

Cyanamid also states the new soluble Vat Brown BY is effective on wool where excellent light and wet fastness properties are required.

Other soluble vat dyes offered by Cyanamid are gray, blue, brown, jade green, orange, pink, scarlet, violet and yellow.

• Carbide Introduces New Commercial Chemicals

Two new anilines, N-butyl aniline and N-2-ethylhexyl aniline, and a new low-salt type of powdered Cellosize hydroxyethyl cellulose are now commercially available from Carbide and Carbon Chemicals Co, a Division of Union Carbide and Carbon Corp, New York.

The introductory price for the new aniline compounds in drum quantities is 75c/lb, fob South Charleston, W Va. Compared with aniline and the lower N-alkyl anilines, these new products are said to have several advantages, such as lower water solubilities, higher boiling points, lower vapor pressures, lower toxicities, and higher solubilities in oil or hydrocarbons. They should be applicable in processes requiring N-alkyl anilines in the production of dyes and pigments, surface-active agents, textile processing chemicals, etc.

The new low-salt type of powdered Cellosize hydroxyethyl cellulose is a water-soluble, light-colored, freeflowing powder containing 90% hydroxyethyl cellulose. It is currently being offered in three viscosity types: Cellosize WP-09 (viscosity of a 5% solution is approx 100 cps at 20°C), Cellosize WP-3 (approx 300 cps at 20°C), and Cellosize WP-300 (approx 30,000 cps at 20°). The new material is said to be oustanding as a thickener, stabilizer, film former, dispersant, and binder in aqueous systems.

NAMES IN THE NEWS

Griffith

Hurd

Mackinney

Weisberg

Henschel

Closing the books on twenty-five years of active participation in the daily life of the Royce Chemical Company, ROBERT S GRIFFITH retired on July 1 as secretary of the Carlton Hill, N J, concern. He will continue as a member of the board of directors, however.

Following his entrance into the chemical business more than 40 years ago with the Celluloid Zapon Company, now the Atlas Powder Company, Griffith joined Jacques-Wolf Co in 1920 as a salesman in metropolitan New York, New Jersey, and Canada. On July 1, 1929, together with Albert J Royce, Sr, he helped organize the Royce Chemical Company, acting as a salesman in metropolitan New York for many years. In addition to his sales duties, Griffith was secretary and a director of the Royce Company from its inception.

J C PULLMAN, former assistant to the manager of the New Product Development Department, has been named manager of technical service of American Cyanamid Company's Petrochemicals Department, where he will participate in the commercial development of new uses for acrylonitrile and its derivatives, and will supervise all departmental technical matters related to sales.

V E WELLMAN, manager of the Petrochemicals Department, will head the Department's newly formed sales organization, which was formed to handle most of the products of Cyanamid's Fortier Plant in New Orleans. Named to posts in the new sales group are A J WEITH, assistant sales manager; GEORGE C VOSS, district sales manager with headquarters in New York; and FRANK W MINER, district sales manager in Chicago. The New York sales office, covering New York, New Jersey, eastern Pennsylvania and Maryland, is currently in operation; the Chicago office, covering Minnesota, Michigan, Illinois, Indiana and Wisconsin, will be opened by the end of the year.

Cyanamid has announced also the promotions of C M VANDERWAART, GEORGE J MARLOWE and FRANCIS K MAPLES in the chemical engineering section, Organic Chemicals Division plant, Bound Brook, N J. Dr Vanderwaart has been appointed staff assistant to the chief chemical engineer, WILLIAM J KRUPPA; Dr Marlowe has been named department chemical engineer for heavy chemicals and will also retain the same post in the coal tar chemicals department; and Mr Maples is the new operating supervisor of the central pilot plant.

Cyanamid's Dyestuff Department has added PAUL C LINDLEY, JR as sales representative in the North Carolina in part of the territory formerly covered by ERWIN G WALKER, who was recently appointed dyestuff sales manager. Mr Lindley comes to Cyanamid from Burlington Mills in Greensboro where he served as assistant purchasing agent since 1945.

FRED A ESCHERICH, formerly with Cyanamid's Research Division at Stamford, Conn, has been appointed to the Market Research Department.

IRA S HURD, who for the past 8½ years has served the Warwick Chemical Division of Sun Chemical Corp as textile sales manager, has been appointed sales manager of E F Drew & Co, Inc's Textile Division.

Drew also has named JOHN P REDSTON field sales manager, while announcing that EDWARD BAXTER will represent the company in North Carolina and Virginia. Mr Redston has been with the Drew organization for some time; Mr Baxter was formerly with Burlington Mills as superintendent at Dublin and at Greensboro.

JAMES C WALKER, vice-president and manager of the Dyestuff Division of Sandoz Chemical Works, Inc, has announced the appointment of F P MACKINNEY as manager of the Charlotte, North Carolina Office, succeeding A T HANES, JR, who has recently been promoted to vice-president in charge of sales, with headquarters in New York.

Mr Mackinney has been with the Sandoz organization since 1935.

V H BODEN and D B MULLIN have been appointed assistant sales managers of the Industrial Chemicals Sales Department of Carbide and Carbon Chemicals Company, a Division of Union Carbide and Carbon Corporation.

Mr Boden will continue to supervise the operations of the Eastern Division from his offices in Philadelphia, while Mr Mullin will be responsible for all the staff operations of the Industrial Chemicals Sales Department.

F ESTES SMITH, a member of the president's staff of Wyandotte Chemicals Corporation, has been appointed assistant to president ROBERT B SEMPLE.

Geigy Chemical Corporation has announced the retirement of MARK WEISBERG, formerly in charge of its Alrose Chemical Company Division in Cranston, R I. Mr Weisberg founded Alrose in 1935. After its acquisition by Geigy in 1949 he continued as its president until it became a division of Geigy on March 30 of this year.

ALFRED N HENSCHEL has been appointed technical service representative for Warwick Chemical Company, Division of Sun Chemical Corporation.

Mr Henschel comes to Warwick from Princeton Knitting Mills where, as chief chemist, he worked on application, research and development activities. His experience includes such projects as control of sewage treatment, quality control on processed plant water, graphite removal from nylon lace, and development of synthetic resin finishes for plant application in shrinkage control.

The Atlantic Refining Company has appointed STANLEY ARASIM, JR, market and product development specialist in chemical product sales.

Kaufmann

Shea

Dohner

Creegan

Hart

Boggs

Buffalo Electro-Chemical Co, Inc, Division of Food Machinery and Chemical Corp, has announced the appointment of H O KAUFFMANN, technical director, to the board of directors, and the appointment of JOHN F SHEA, sales manager, to the position of secretary and treasurer.

DONALD C DOHNER has been appointed director of new products development, Amalgamated Chemical Corp, Philadelphia, Pa.

Though making his headquarters in Greensboro, N C, Mr Dohner will divide his efforts between the southern office in Greensboro, and the home office in Philadelphia. His function will be in market research and the development of new chemicals to fit specific needs.

FRED S PERKERSON, formerly research scientist with the U S Government in Germany, recently joined the staff of the Southern Regional Research Laboratory, New Orleans, La, as chemist in charge of the Addition Unit. He will conduct investigations to improve the weathering characteristics of cotton, particularly the resistance of cotton to microbiological attack and solar radiation. Dr Perkerson will work under the direction of C F GOLDTHWAIT, head of the Cotton Chemical Processing Section.

RUSSELL W PETERSON has been named research director for Dacron polyester fiber by Du Pont's Textile Fibers Department and will head a newly created research division devoted exclusively to the fiber. He moves up from the post of assistant manager of Du Pont's Kinston, N C, plant where Dacron is manufactured.

The Textile Fibers Department also has announced the appointment of ROBERT W SEITZ as plant manager of Du Pont's Textile Research Laboratory at Chestnut Run. Mr Seitz has been assistant manager of the Company's nylon plant at Seaford, Del, since May, 1952.

ERNEST J GILLILAND, formerly with Deering Milliken & Co at Pendleton, S C, has joined The Chemstrand Corporation's technical sales staff. He will be located at the Chemstrand nylon plant at Pensacola, Fla.

American Viscose Corporation has appointed HARRY D ABBOTT manager of sales research in the Sylvania Division. Mr Abbott formerly served as a buyer and manager of commodity research in the Purchasing Department of the corporation.

Other Avisco transfers include that of GEORGE M ALLEN, director of mechanical research for the last several years, to the position of assistant to the manager of the Research and Development Department, and that of RICHARD W BONNET to the corporation's Technical Department at Marcus Hook, Pa. Mr Bonnet, who was formerly at the Lewistown, Pa, plant, will be in charge of Technical Department activities dealing in special and developmental yarns.

HARRY F CREEGAN, who joined the The James Hunter Machine Co almost two years ago, has been appointed sales manager of the Textile Division.

ROY H BOGGS, formerly assistant technical superintendent with Robbins Mills, has been appointed manager of Union Bay State Chemical Company's Southern Service and Development Laboratory to be located in Greenville, S C.

ERNEST H HART has been named to head The Kenyon Piece Dyeworks, Inc's New York sales office at 1450 Broadway. Mr Hart has for a number of years held the post of director of technical sales for Fair Lawn Finishing Co, Fair Lawn, N J, and Richmond Piece Dyeworks, Richmond, Va. He succeeds HERBERT STADTLANDER, who has resigned to devote his efforts to an enterprise of his own in Florida.

W D MORRISON has been named assistant to the director of the Development Department of Celanese Corporation of America. Until his promotion, Mr Morrison for the last two years was assistant manager of the Product Development Department of the Chemical Division of the Company.

Hooker Electrochemical Company, Niagara Falls, N Y, has announced the following personnel moves:

JAMES E DILLMAN has been appointed a group leader in the process study group, WILLIAM J BAKER appointed as a chemical engineer in the electrolytic department, and ROBERT E BAKER as a chemical engineer in the engineering department.

KENNETH O HAMBROCK is now serving Hooker in the process study group, and the following have been added to the works laboratory staff where they are doing analytical work: FRANCIS B ANTONOU, EDWIN R EWASZCZAK, DOROTHY J POHLMAN, and JOYCE C WILKINSON.

Other new technical employees include THEODORE B SIMPSON — pilot plant group, research and development department; HAROLD J CRAMER — designing engineer, engineering department; PAUL J BERRIGAN — research and development department; BERNARD A ISROE, JR — chemical engineer, process study group; JOHN A STARK — chemical engineer, process study group; EDWARD J LOBBETT — chemist, research and development department; and WALTER E FITZGERALD, JR — chemical engineer, process study group.

WAYNE E KUHN has been named general manager of the newly-created Research and Technical Department of The Texas Company.

Dr Kuhn had been manager of the Company's Technical and Research Division since September, 1938. Until recently the research organization of The Texas Company had functioned as a division of Refining. As the Research and Technical Department, it now has departmental status.

Meigs

Alexander

Williams

Simpson

Walters

Wedge

General Aniline & Film Corporation has named FREDERICK M MEIGS general manager of foreign operations, succeeding JOHN H HILLDRING, who was elected executive vice president of the Company last year. Dr Meigs had been assistant general manager since last December.

In GAF's Dyestuff and Chemical Division, WALTER N ALEXANDER has been named director of operational planning, and SUMNER H WILLIAMS has been elected vice president and general sales manager. Mr Williams had served in a similar capacity with General Dyestuff Corporation and his election as an official of GAF is coincident with the recent merger of the two companies. Mr Alexander's previous position with the Division was that of director of technical planning.

ALFRED B BABCOCK, JR, one-time assistant branch chief of the New York Operations Office, United States Atomic Energy Commission, has been named chief project engineer of the Borden Company's Chemical Division.

Mr Babcock was associated with Borden's Chemical Division between 1946 and 1949 as a process engineer in the division's Bainbridge, New York laboratories.

JAMES H EWING, formerly of the Patent Department of Beaunit Mills, Inc — North American Rayon Corp, is now engaged in the practice of patent law in Washington, D C.

GEORGE B ACTON has been appointed southeastern representative of the United States Testing Company, Inc, Hoboken, N J.

Mr Acton, whose headquarters will be at Laurens, S C, will cover the Carolinas, Georgia and eastern Tennessee.

ARTHUR C BRYAN has been appointed vice president and general manager of consumer products, and WILLIAM H FEATHERS, vice president and general manager of Industrial Products of National Carbon Company, a Division of Union Carbide and Carbon Corporation. At the same time, WALTER A STEINER has been appointed vice president in charge of development.

Mr Bryan has been vice president in charge of sales for National Carbon since 1952, Mr Feathers has been assistant to the vice president in charge of production since 1952, and Mr Steiner has served as general product manager over all the Company products since 1953.

ROBERT O SIMPSON has been named production superintendent for Wica Chemicals, Inc, Charlotte, N C, where he will co-ordinate customer services. Former connections include Kerr Bleaching and Dye Works, Pequot Mills, and Hartsville Print and Dye Works.

Wica also has named GROVER B WALTERS as polymer research chemist.

Establishment of a Commercial Chemical Development Department, with FRANKLIN W WEDGE as manager, has been announced by the Ansul Chemical Company, Marinette, Wis.

The department will be part of the company's research and development program, and will bring together in one central agency several functions hitherto performed by other departments. In addition the department will act in a liaison capacity between Research and Development, Industrial Chemicals Sales and other Ansul departments.

Wedge has been with Ansul eight years. His top assistant will be MORRIS NEUVILLE, who has been with Ansul as a research chemist since 1948.

EARL SCOTT has been appointed to the headquarters of The Goodyear's Tire & Rubber Company's Chemical Division at Akron, O, where he will handle technical sales service on Chemigum, Pliolite and Pliovic latices principally for the textile and paper industries.

WOODROW W WIBEL, who recently returned from the west coast where he was associated with McCullock Motors as a cost reduction engineer, has joined the sales department of Jameson Chemical Co, Chicago, Ill.

C J CHAPMAN, Chicago District sales manager for National Carbon Company since 1951, has been appointed general sales manager, industrial products. He will be located in the company's general offices in New York. National Carbon is a division of Union Carbide and Carbon Corp.

Stauffer Chemical Company has appointed ROBERT U HASLANGER to the Administrative Staff. Formerly General Manager of Sales of the Texas Division, Monsanto Chemical Company, Mr Haslanger was more recently Director of Sales of its Plastics Division. He will headquarter in Stauffer's New York office.

Bryan

Feathers

Steiner

Scott

Chapman

Haslanger

TECHNICAL LITERATURE

(This is an alphabetical list of some of the outstanding technical literature which has appeared recently. Unless otherwise indicated any literature appearing in this listing may be obtained free of charge from the supplier upon written request.)

A NEW PRODUCT OF DU PONT RESEARCH—MYLAR® POLYESTER FILM———*Film Dept, E I du Pont deNemours & Co, Inc, Wilmington 98, Del*———This booklet shows where the unusual balance of properties of Mylar polyester film can be used to advantage.

A STUDY OF THE EFFECT OF TEMPERATURE ON TEXTILE MATERIALS ——— *1953: 181 pages, with tables and charts, available from Office of Technical Services, U S Department of Commerce, Washington 25, D C (Commerce Building, Room 6227); $2.00. Code No of Report, PB 111240*———The effects of extremes of temperature and humidity upon 12 natural and synthetic parachute yarns are described in this report from the Wright Air Development Center. Eight filament and four staple yarns were evaluated at temperatures from —70 to 375 degrees F. Dacron yarn showed especially high resistance to hot-air degradation and was superior in most of the properties studied. These properties include breaking tenacity, yield tenacity, elongation, initial modulus, loop tenacity, energy absorbed, and heat shrinkage. Test procedures are described and results tabulated in graphs and charts. (BTR Vol 21, No 5, p 147.)

ACETOACETARYLAMIDES ——— *Form 8259, Carbide and Carbon Chemicals Co, 30 East 42nd St, New York 17, N Y*———Physical and chemical properties, applications, and shipping information are given relative to acetoacetarylamides, which are used in the manufacture of the organic pigments known as Hansa yellows and benzidine yellows. These colors are said to possess high tinctorial strength and are not darkened by atmospheric sulfur.

Acetoacetarylamides resemble ethyl acetoacetate in chemical reactivity. They are susceptible to the numerous condensation and substitution reactions that characterize compounds containing reactive carbonyl and methylene groups.

ALIZARINE CYANINE GREEN GWA-CF———*Bull G-773, General Dyestuff Co, 435 Hudson St, New York 14, N Y*———Alizarine Cyanine Green GWA-CF is a straight anthraquinone type of dyestuff, which is applicable by chrome-dyeing methods on wool and by acid or neutral dyeing methods on wool, nylon and silk. It gives the same bluish-green self shades as GDC's Alizarine Cyanine Greens GHN Conc CF and G Extra New CF but differs chemically from these and all other dyestuffs of similar shade. As a result of this chemical difference, dyeings of the GWA-CF brand on wool, carried out either with or without chrome, are said to be considerably faster to both fulling and washing than dyeings of these older greens of similar shade; and dyeings of the GWA-CF brand on silk and nylon dyed with or without acid also are said to be faster to washing, while at the same time fully as fast to light.

The dyestuff's properties on wool are disclosed in detail in G-773. Other features include application details for dyeing wool, (acid, neutral and union, and top-chrome methods), listings of properties and fastness ratings, and sample dyeings.

BALL BEARING HIGH SPEED COUNTERBALANCED TACKING HEAD———*Circ No 1186, Birch Bros, Inc, 32 Kent St, Somerville 43, Mass*———This tacking head is designed to operate at speeds of 60 ypm.

BIBLIOGRAPHICAL ABSTRACTS OF METHODS FOR ANALYSIS OF SYNTHETIC DETERGENTS———*American Society for Testing Materials, 1916 Race St, Philadelphia 3, Pa*———*6 x 9, heavy paper cover, 20 pp, $1.25**———This compilation of 96 Bibliographical Abstracts is presented to keep pace with the accelerated growth of the synthetic detergent industry and the wealth of published information on the subject. The booklet covers the years 1929 to 1951, and contains subject and author indexes.

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PAPERS ON SOAPS AND OTHER DETERGENTS———*American Society for Testing Materials, 1916 Race St, Philadelphia 3, Pa; 8½ x 11, self cover, 25 pp, $.75**———A group of six papers on soaps and detergents are published in this single booklet. The first five papers were presented at the March 1953 meeting of ASTM Committee D-12 on Soaps and Other Detergents and are reprinted from the ASTM Bulletin. The sixth paper was added because of its related interest.

The titles and authors of the papers are:

"Analysis of Hard Water Soap: The Direct Determination of Active Sulfonate in Mixtures of Soap and Nacconol RB 85"—L F Hoyt and J E Walter

"Detergents in Drycleaning"—G P Fulton, J C Alexander, A C Lloyd and M Schwartz

"The Effects of Detergents on Sewage-Treatment Processes"—Raymond Manganelli

"A Dynamic Test for Detergency of Hard Surfaces"—M N Fineman

"Asphalt Tile Cleaner Specifications"— A C Zettlemoyer

"The Temperature Rise Test to Determine the Relative Amounts of Phases 1 and II in Sodium Triphosphate"—J D McGilvery.

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* BIBLIOGRAPHY ABSTRACTS OF METHODS FOR ANALYSIS OF SYNTHETIC DETERGENTS and PAPERS ON SOAPS AND OTHER DETERGENTS are available from ASTM at a combination price of $1.50.

CARBOWAX METHOXY POLYETHYLENE GLYCOLS———*Bull F-6376, Carbide and Carbon Chemicals Co, 30 East 42nd St, New York 17, N Y*——— Physical properties, specifications, and shipping data are included for the methoxy polyethylene glycols 350, 500, and 750. Comparative wetting efficiencies of fatty acid ester derivatives are also included.

CELLITON® FAST PINK RF NEW-CF———*Bull G-771, General Dyestuff Co, 435 Hudson St, New York 14, N Y*———Celliton Fast Pink RF NEW CF is a straight, noncompetitive, disperse dyestuff for dyeing acetate, nylon, polyacrylic, and polyester fibers, which is said to have been considerably improved in working and dyeing properties with full maintenance of the brilliance of shade, exceptional light fastness and good general fastness properties of GDC's old Celliton Fast Pink RF brands.

G-771 discusses the dyestuff's relation to acetate, nylon, acrylics, and Dacron. Application details for dissolving Celliton dyestuffs, dyeing acetate or nylon, Orlon, Dacron, or Dynel also are presented. Other features of the bulletin include listings of the dyestuff's properties and fastness ratings of full shades, as well as sample dyeings.

CELLITON® FAST YELLOW GGLL-CF, CELLITON FAST YELLOW 3RLL-CF———*Bull G-772, General Dyestuff Co, 435 Hudson St, New York 14, N Y*———These are straight disperse (acetate-type) dyestuffs, which are especially recommended by the manufacturer for the dyeing of light shades on acetate textiles when the best possible light fastness is required. They are also recommended for heavy as well as light shades of better than usual light fastness on some of the new wholly synthetic fibers, such as nylon, Dynel, and Dacron.

G-772 discusses the relation of both dyestuffs to acetate and to nylon, Dynel and Dacron. Under the heading "Application" material is presented on dissolving Celliton dyestuffs, dyeing acetate or nylon, dyeing Dacron, and dyeing Dynel. Listings of properties and fastness ratings as well as sample dyeings also are included.

CHLORINATED BENZENES ——— *Organic Chemical Sales, The Dow Chemical Co, Midland, Mich*———Described in this booklet are monochlorobenzene, o-dichlorobenzene, p-dichlorobenzene, and 1,2,4-trichlorobenzene—all manufactured by Dow. Derivative charts, end uses, property and solubility tables and toxicity and handling precautions are given.

CLOTH OPENING AND VACUUM EXTRACTING RANGE———*Circ No 1164, Birch Bros, Inc, 32 Kent St, Somerville 43, Mass*———This new range is intended for use where fabrics cannot be run through a scutcher or cloth opener. It consists of a turntable on which the cloth truck sets, a poteye, an adjustable cloth tension arrangement, air guiders, and a complete vacuum extracting machine fitted with a curved-bar rubber expander, Birch Brother's patent adjustable slot vacuum extracting box, draw rolls, and a folder.

CONTINUOUS PEROXIDE BLEACHING RANGES———*Cat No 103, Rodney Hunt Machine Co, Dept BR, Orange, Mass*———Conventional rope and open-width bleaching ranges for larger operations and the new bleaching Rangettes for small operations are fully described by text, photos and drawings in this 28-page catalog.

A comparison of continuous peroxide bleaching and kier bleaching is presented, showing how continuous processing can save water, steam, time, space, chemicals, and labor in addition to improving product and control.

Specifications of Becco and Du Pont type Rangette J Boxes, Rangette Tensitrol rope washers, and Rangette saturators are given in detail.

Typical single, two and three-stage Rangette and conventional bleaching range layouts are illustrated in floor plans and schematic elevations. Photos of installations in various mills are liberally used throughout the catalog.

CRAFTSMANSHIP IN MATERIALS HANDLING SPECIALTIES———*William Bal Corp, 2 Johnson St, Newark 5, N J*———This 6-page brochure describes representative types of vulcanized fiber materials used in factory, warehouse and store operations.

DETERGENCY EVALUATION AND TESTING ———*(Price not indicated); Interscience Publishers, Inc, New York, N Y*———This technical book by J C Harris, director of application research for the Merchandising Division of Monsanto Chemical Co, outlines and describes in full screening tests, cotton washing, wash test methods, wool washing, washing procedures for other fibers, hand surface cleaning, radioisotopic tracer methods and miscellaneous tests.

ETHANOLAMINES——MONOETHANOLAMINE, DIETHANOLAMINE, TRIETHANOLAMINE——— *The Dow Chemical Co, Midland, Mich*——— Ethanolamines, the chemical "building blocks" used in many industries as emulsifier intermediates, are described in this new handbook.

The booklet lists physical properties and the more common chemical reactions these products will undergo. It mentions some of their uses in other products and includes a table of properties of several ethanolamine soaps. Precautions for handling ethanolamines are also discussed.

FASTUSOL® RED L4BL-CF———*Bull G-766, General Dyestuff Co, 435 Hudson St, New York 14, N Y*———Fastusol Red L4BL-CF is a straight direct dyestuff (Pr 428) for dyeing fast-to-light red and combination shades on cotton, rayon, and silk. It is said to be characterized by excellent light fastness, and to be suitable for use on rayon piece goods that are to be given an anticrease resin finish.

G-766 contains material on the dyestuff's properties (shade and fastness, dyeing properties), uses, application (cellulosic textiles, white discharge), fastness ratings of full dyeings on cotton or rayon (direct and aftertreated with anticrease resin and Benzofix CWF), etc. Sample dyeings on cotton sheeting, rayon crepe, acetate-viscose, and cotton-wool union also are included.

FUNGUS-RESISTANT VINYL PLASTISOLS ———*Scientific Oil Compounding Co, Inc, 1637 South Kilbourn Ave, Chicago 23, Ill.*

HERMAS JET MIXER——*Hermas Machine Co, Hawthorne, N J*——This folder discusses the mixer's theory of operation, interchangeable rotors, production capacities, etc, in addition to listing its various specifications. The high speed action of these mixers finds application in the preparation of various clears, and pigmented textile inks—whether the Aridye, Sherdye or Aula process.

HIGH-PRESSURE ACETYLENE DERIVATIVES——*Bull M-104 R, Commercial Development Dept, General Aniline & Film Corp, 435 Hudson St, New York 14, N Y*——This revised bulletin gives a brief summary of the structure, physical form, availability, and suggested uses of these chemicals. Among the compounds included are those which will be manufactured at GAF's new plant in Calvert City, Ky.

INDEX OF HONEYWELL LITERATURE——*Bull 100-C, W A Lang, Product Editor, Minneapolis-Honeywell Regulator Co, Industrial Div, Wayne and Windrim Aves, Philadelphia 44, Pa*——All current Honeywell Industrial Division literature—numbers and titles of all catalogs, bulletins, specification sheets, and instrumentation data sheets—are included.

MANUAL OF MODERN INSTRUMENTS——*Coleman Instruments, Inc, 318 Madison St, Maywood, Ill*——This 64-page catalog contains, in addition to a complete listing of Coleman instruments and accessories, brief descriptions of the most widely used analytical systems. Included are complete discussions of theory and practice of absorption spectrochemistry, nephelometry, colorimetry, pH measurement, fluorimetry, and flame photometry.

MARATHON CORP LITERATURE——*Chemical Division, Marathon Corp, Rothschild, Wis*——Five new bulletins pertaining to specific uses for Marathon's dispersing agents and allied surfactants are now available. Dyestuffs and water treatment are among the applications described.

METHANOL——*Booklet F-8141, Carbide and Carbon Chemicals Co, 30 East 42nd St, New York 17, N Y*——This 16-page booklet contains information on the uses, physical properties, shipping data, specifications, and constant-boiling mixtures of methanol. 14 graphs on vapor pressures, specific gravities, freezing points, viscosities, and other important physical properties are presented.

MODIFICATION OF THE PHYSICAL PROPERTIES OF HARD FIBERS THROUGH CHEMICAL TREATMENT——*(Technical Report No 5); Office of Naval Research; 1952, 43 pages. Available from the Library of Congress, Publication Board Project, Washington 25, D C; Microfilm $2.75; Photostat $6.50. Code No of Report, PB 113309*——Significant increases in wet and dry elongation of abaca (Manila hemp) without loss of tensile strength are reported for a treatment described in this volume. Increases in dry and wet elongations to rupture were as much as 300 and 400 percent respectively. This treatment, in which the fibers are immersed first in caustic soda and then in a Volan solution (methacrylato chromic chloride), was developed in a research program aimed at improving the properties of abaca in cordage structures. Consideration is given abaca both by itself and in blends with such other fibers as sisal and henequen. Modifications in cell structure as a result of the chemical treatment are illustrated. (BTR Vol 21, No 5, p 147.)

OCTYLPHENOL - NONYLPHENOL——*SP-98, Rohm & Haas Co, Special Products Dept, Washington Sq, Philadelphia 5, Pa*——Physical properties, uses and chemical reactions of these alkylphenols are covered in detail. 84 references to literature are cited.

PALCO INDUSTRIAL CHEMICALS——*Bull No C-143-1, The Pacific Lumber Co, 100 Bush St, San Francisco, Calif*——Actual commercial application experience and potential uses of Palcotan and Palconate, two reactive chemicals derived from redwood bark, are outlined in this booklet. They are said to be effective as dispersing agents, replacement for phenol or quebracho or other tannins, etc. The booklet is designed to present in quick reference form a listing of typical industrial applications, and general properties of the two chemicals. Graphs illustrate behavior under various conditions.

According to the booklet, redwood bark contains a high percentage of phenolic acids readily extractable by mild processing methods. Palconate is the sodium salt of these organic acids, and Palcotan is the sodium salt of sulfonated organic acids.

POLYPROPYLENE GLYCOLS——*Tech Bull F-7220, Carbide and Carbon Chemicals Co, 30 E 42nd St, New York 17, N Y*——Physical properties, specifications, and shipping data are included for the series: 150, 425, 1025, and 2025. A table for compatabilities is also given.

PROCEEDINGS OF THE 1954 COTTON RESEARCH CLINIC——*Technical Dept, National Cotton Council, 1832 M Street, N W Washington 6, D C*——Single copies of all papers presented at the 1954 Cotton Research Clinic last February at Pinehurst, N C, may now be obtained.

PROCEEDINGS OF THE 1954 SOUTHERN INDUSTRIAL WASTES CONFERENCE——*Manufacturing Chemists' Association, 1625 Eye St, N W, Washington 6, D C; $2.50 per copy*——Included in the 210-page proceedings are the 22 papers which were presented at the three-day conference held last April in Houston, Texas. They discuss virtually every facet of air- and water-pollution-abatement techniques and were given by national authorities in the field.

The conference was sponsored jointly by Southern Association of Science and Industry, Inc, Texas Chemical Council and MCA.

PROPYLENE OXIDE——*F-8485, Carbide and Carbon Chemicals Co, 30 East 42nd St, New York 17, N Y*——Propylene oxide is said to be an excellent intermediate for the production of textile lubricants and vat dyes. This 4-page bulletin discusses its physical properties, specifications, shipping data, constant boiling mixtures, physiological properties, and uses.

STYRENE MONOMER——*Tech Bull C-4-198, Koppers Co, Inc, Chemical Division, Koppers Bldg, Pittsburgh 19, Pa*——A description of Koppers Styrene Monomer and its uses is contained in this 23-page bulletin. Properties of the derivatives and specifications are also given. Supplemental information of a more detailed technical nature may be obtained by requesting Tech Bull C-4-119.

SULFRAMIN E LIQUID——*Ultra Chemical Works, Inc, 2 Wood St, Paterson, N J*——Sulframin E Liquid, a new alkyl aryl sulfonate is thoroughly discussed in this 12-page brochure. Considerable information is presented as to its properties, physical form, pH value, hard water resistance, acid and alkali resistance, foaming ability, wetting and penetration, detergency, rinsibility, nontoxicity, and bactericidal action. Among its varied industrial uses are those in textile processing: raw wool scouring, wool fulling and scouring, wool dyeing, wool carbonizing, cotton dyeing, cotton processing, scouring rayon and acetate, and dyeing rayon and acetates.

TECHNICAL DATA—BASIC PRODUCTS——*Ultra Chemical Works, Inc, 2 Wood St, Paterson, N J*——The following basic products, the majority of which find numerous applications in the textile wet processing industry, are discussed in detail: Sulframin DT Powder, Sulframin LW Powder, Sulframin ABW Powder, Sulframin AB Detergents, Sulframin HD Beads, Ultrapole S Liquid, Sulframin L, Ultramin* B Softener, Ultramin* SS Softener, Ultrapole DL Liquid, and Detergol.

* Trademark Registered

VINYL CHLORIDE MONOMER——*Coating Technical Service, The Dow Chemical Company, Midland, Michigan*——This 21-page booklet includes data on properties, transportation, storage, inhibitors, polymerization and operating equipment. It also includes tables and graphs of properties and drawings of equipment for vinyl chloride.

WATER CONDITIONING——*Data Book No 2478A, The Permutit Co, 330 West 42nd St, New York 36, N Y*——This practical reference volume supersedes an earlier volume produced in 1952. Brought up-to-date and completely revised, it presents a compilation of 78 chapters and tables.

The subjects covered, to name a few, include: hydraulics; impurities in water; chemical conversions; coagulant, acid and alkali dosages; chemicals used in water treatment; water treatment processes; boiler feed make-up requirements, alkalinity relationships, specific gravities, chemical reactions, hydraulic conversion factors, etc.—5" x 7¼", 108 pages.

GENERAL CALENDAR

AMERICAN CHEMICAL SOCIETY
National Chemical Exposition—Oct 12-15, Chicago, Ill.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS
Southern Textile Conference—Nov 4-5, North Carolina State College, Raleigh, N C.

AMERICAN SOCIETY FOR QUALITY CONTROL
Annual meeting, Textile Div—Jan 27-29, Clemson College School of Textiles.

CHAMBRE SYNDICALE TRAMAGRAS
International Detergent Congress—Aug 30-Sept 5, The Sorbonne, Paris, France.

DELTA KAPPA PHI FRATERNITY
1955 Annual Convention—April 29-30, Lowell, Mass.

DEUTSCHE GESELLSCHAFT FUER CHEMISCHES APPARATEWESEN
Achema XI—May 14-22, Frankfurt am Main, Germany.

DRYSALTERS CLUB OF NEW ENGLAND
Oct 29, Jan 24, April 29 (Hotel Vendome, Boston, Mass); June 24 (Outing—Wachusett Country Club, W Boylston, Mass.)

THE FIBER SOCIETY
Fall Meeting—Sept 13-14, McGill University, Montreal, Canada.
Spring Meeting—May 4-5, 1955, Alabama Polytechnic Institute, Auburn, Alabama.

Fall Meeting—Sept 8-9, 1955, Massachusetts Institute of Technology, Cambridge, Mass.

INTERNATIONAL CONGRESS OF INDUSTRIAL CHEMISTRY
27th Congress—Sept 11-19, Brussels, Belgium.

INTERNATIONAL TEXTILE EXHIBITION
2nd Exhibition—June 25-July 10, 1955, Brussels, Belgium.

INTERNATIONAL WOOL TEXTILE RESEARCH CONFERENCE
September, 1955—Sydney, Melbourne, and Geelong, Australia.

NATIONAL ASSOCIATION OF HOSIERY MANUFACTURERS, KNITTED OUTERWEAR ASSOCIATION, THE UNDERWEAR INSTITUTE
42nd Knitting Arts Exhibition—April 25-29, Convention Hall, Atlantic City, N J.

NATIONAL COTTON COUNCIL OF AMERICA
1954 Chemical Finishing Conference—Oct 7-8, Hotel Statler, Washington, D C.
Annual Meeting—Jan 31-Feb 1, Hotel Shamrock, Houston, Tex.

Cotton Research Clinic—Feb 16-18, Pinehurst, N C.

NATIONAL INSTITUTE OF DRYCLEANING
4th Educational Conference—Dec 5-10, Silver Spring, Md.

NEW YORK PIGMENT CLUB
Sept 9, Oct 14, Nov 10, Dec 9, Jan 15.

NORTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION
48th Annual Meeting—Oct 14-15, The Carolina, Pinehurst, N C.

SOUTHERN TEXTILE EXPOSITION
October 4-9 (Textile Hall, Greenville, S C).

TEXTILE RESEARCH INSTITUTE
25th Annual Meeting—March 10-11, Hotel Commodore, New York, N Y.

TEXTILE TECHNICAL FEDERATION OF CANADA
4th Seminar—Sept 9-11, Queen's Univ, Kingston, Ont.

A SURVEY OF THE SOUTH

Prepared especially for the textile WET-PROCESSING INDUSTRY by the S.A.S.I. and published in conjunction with the Thirty-Third Annual Convention of the A.A.T.C.C., sponsors of the South's First Textile Wet-Processing Exhibit held in Atlanta, Georgia, Sept. 15 thru 18, 1954.

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A presentation of the natural and economic advantages that the South offers management and technical personnel in processing plants.

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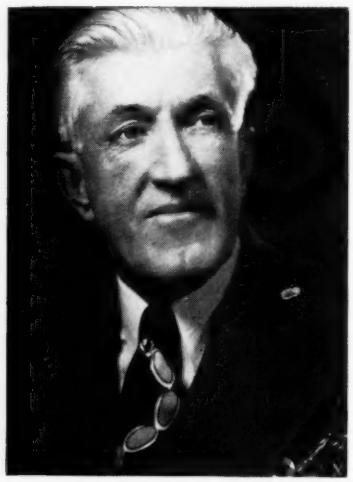
This special article was prepared for the American Dyestuff Reporter by Dr. A. P. Black, President of the Southern Association of Science and Industry.

THE AUTHOR

Biographical Data



A P BLACK

Professor of Chemistry, University of Florida

EDUCATION, AND EXPERIENCE:

Born, Blossom, Texas, August 30, 1895
AB Cum Laude, Southwestern University, Georgetown, Texas, 1917.
Graduate Work: Iowa State College, Ames, Iowa; Harvard University, Cambridge, Mass; University of Iowa, Iowa City, Iowa; Received the PhD degree, University of Iowa, 1933.
Professor and Head, Department of Chemistry, Wesley College (Texas), 1917-18.
Chemical Warfare Service, U S Army, July-December, 1918.
December, 1918-August, 1919, Assistant Chemist, United States Bureau of Standards, Washington, D C.
Assistant Professor of Chemical Engineering, University of Florida, 1919-23.
Professor of Chemistry, University of Florida, 1923-1949.
Head, Department of Chemistry, University of Florida, 1949 to date.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

American Water Works Association; American Chemical Society; American Institute of Chemical Engineers; British Society of Chemical Industry; American Institute of Chemists (Fellow); American Geophysical Union; American Public Health Association; Charter member, Association Interamericana de Ingenieria; Florida Engineering Society; Soil Science Society of Florida; Florida Sewage Works Association; Florida Water Works Operators Association; Florida Academy of Sciences; Florida Public Health Association, The Newcomen Society of North America.

STATE AND NATIONAL OFFICES AND COMMITTEES:

President, American Water Works Association, 1949-50.
Vice-Pres and President-elect, American Water Works Association, 1948-49.
National Director, American Water Works Association, 1936-39.
Director, Water Purification Division, AWWA, 1947.
Vice-President, Fuller Award Society, AWWA, 1947.
Past-Chairman and Past Secretary-Treasurer, Florida Section, AWWA.
Fuller Award, 1939; Goodell Prize, AWWA, 1950.
Chairman, Committee on Methods of Determining Fluorides, AWWA, 1936-41.
Member, Committee on Disposal of Water Treatment Sludges, AWWA.
Member, Committee on Specifications for Water Purification Chemicals, AWWA.
Chairman, Committee on Coagulation and Sedimentation of the Joint Research Committee on Boiler Feedwater Studies.
Member, Committee on Methods of Analysis of the Joint Research Committee on Boiler Feedwater Studies.
Member, Committee on National Water Policy, AWWA.
Member, Committee on Chemical Composition of Natural Water of the American Geophysical Union.
Chairman, Division of Water, Sewage and Sanitation, American Chemical Society, 1937-38 and 1938-39. Past Chairman, Councilor and Secretary, Florida Section.
President, Southern Association of Science & Industry, 1953-54.
Member, National Advisory Dental Research Council 1951-55.
Member, Florida Basin Committee of the National Resources Committee.
Member, Committee on Sewage Disposal of the American Institute of Chemists.
Member, Committee on Standard Methods of Sewage Analysis of the Federated Sewage Works Association.
Contributing Editor, JOURNAL OF CHEMICAL EDUCATION, 1924-40.
Chairman, Short Courses in Water and Sewage Treatment offered annually by University of Florida since 1930.
Registered Chemical Engineer, State of Florida.
Consulting Chemical Engineer to a large number of Florida municipalities, corporations, and organizations.
President, Florida Public Health Association, 1944.

BIOGRAPHY APPEARS IN:

Who's Who in America; Who Knows and What; American Men of Science; America's Young Men; Who's Who in Engineering; Who's Who Among Association Executives: Who's Who in American Education: Chemical Who's Who.

SURVEY OF THE SOUTH

By DR A P BLACK

President, Southern Association of Science and Industry, and Head, Chemistry Department, University of Florida, Gainesville

The Southern States with their abundance of natural water resources—availability of necessary chemical auxiliaries—localized sources of machinery, etc., offer the textile wet processing industry an ideal geographical location for Dyeing, Bleaching and Finishing operations.

The trend toward the expansion of the textile wet processing industry and the increase in available chemical auxiliaries in the Southern States is as inevitable as the shift of cotton spinning mills which has been in progress since the turn of the century. No other region can offer such an attractive combination of industry location advantages.

This technical phase of the industry is being spurred in its development in the South by a general economic awakening that touches everything in the region. Nothing succeeds like success and nothing promotes industrial growth so much as more industrial growth. Today the South is caught in a booming cycle of industrial expansion that is sure to continue in the years ahead.

For decades the South produced raw materials which were shipped to other regions, processed, and resold to the South at marked-up prices. This trend is now being reversed and, as a result, the South is enjoying a tremendous increase in income and purchasing power. Suddenly, the Southern dollar has begun to speak.

The roots of this change are deep. Improved methods, mechanization, and education have given workers and farmers ability to buy products and services previously beyond their reach. Thus, Southern trading centers are booming.

As a result of consumer demand, new industrial plants are being located in the South to supply local markets. Also, the industrial mobilization program prompted by the Korean war has spurred tremendous expansion of manufacturing facilities throughout the South.

At the peak of the current expansion period the South added an average of one new multi-million dollar industrial plant for each working day—more than three hundred major plants in twelve months. The full impact of this expansion is yet to be felt. For example, it is estimated that the new

manufacturing units added in Florida alone in one recent year will provide an additional $25 million for the state's weekly payroll.

How does this general trend affect the textile chemical field? Here are a few of the important factors which will influence future growth:

Water—One of the great attractions of the South for the textile wet processing industry is an abundance of fresh water. The availability of numerous sites on large-volume streams accessible to markets and transportation is an advantage not afforded by any other region today.

The South's coastal plain is more abundantly endowed by both surface and ground water than any other region. The Southeastern drainage basin, which includes 285,000 square miles in seven Southern States, discharges into the Atlantic Ocean and the Gulf of Mexico an average of 325 cubic feet per second or 235 million acre-feet per year.

In Alabama moderate to large supplies of ground water are available in the coastal plain and in some places in the northern part of the state. Small supplies of ground water are available in the Piedmont area. Abundant supplies from surface streams await development.

Florida has exceptional water resources when compared with other states, for example: Florida has 66 major springs whose combined daily flow averages 3.6 billion gallons—an amount equal to two-thirds of the more than 5 billion gallons of ground water used daily by all American industry.

Large undeveloped water supplies are available over most of Georgia. The average annual rainfall is 50 inches with the annual run-off ranging from about 10 inches in the Southeast to more than 20 inches in the Northern-most part of the State.

The annual rainfall also averages 48 to 50 inches in the Carolinas. In the Coastal Plains areas surface water supplies are large and generally have good chemical quality. In the Piedmont plateau small to moderate supplies of ground water are available from bedrock. Surface water is the principal source of supply for large industries.

Much has been done to develop water resources in the Tennessee Valley. While there are some areas in the State where supplies are spotty, there are others which might be termed "water-rich". At Memphis the withdrawal of ground water is about 130 million gallons per day.

In Virginia more than 2 billion gallons per day is being used for municipal and industrial purposes. Ninety percent of this is derived from surface sources. Annual rain fall averages 43 inches.

Markets—Undoubtedly a primary factor will be the attraction of local markets. The South still imports industrial supplies and equipment in great volume despite recent progress. For example, a survey made recently by the Texas Engineering Experiment Station revealed that the chemical-rich Lone Star State imported $135 million worth of chemicals from outside its borders in a recent year. This is a general situation in the South with all states importing heavily in special industrial categories.

The size of the textile market is indicated by the fact that the region now has more than 1,000 major mills as well as hundreds of smaller supporting units. In textile finishing operations, South Carolina leads the nation. Moreover, the South now contains most of the nation's synthetic fiber manufacturing operations.

Inasmuch as prompt technical advice and laboratory service play an important role in marketing, textile chemical manufacturers find it essential to have facilities located near major markets. Several dozen companies which manufacture textile chemical auxiliaries as well as dyestuffs are already situated in the Southern States. These units are located primarily in North Carolina, South Carolina and Georgia where the greatest concentration of mills exist.

The growth of research laboratories has kept pace with the increase in wet processing plant expansion in the South and these well staffed and well equipped units are available locally for immediate consultation. Several of these organizations such as the Southwest Research Institute in San Antonio, the Southern Research Institute in Birmingham, have reached an annual volume of over $1,000,000 in their first five years of operation.

Labor—Much has been said of the availability of "cheap" labor in the Southern textile industry. It is true that there has in the past been a substantial wage differential and there still is a regional difference in certain categories. However, the South does not base its appeal to industry on this difference which undoubtedly will diminish with time. Of much greater interest to industry is the fact that Southern labor is easily trained, yields high productivity, and has resisted union exploitation.

It is also significant that manpower of high skills and technical training is available in the South in increasing supply. Education in engineering, chemistry, and other physical sciences has been vastly improved throughout the region.

A survey made two years ago by SASI revealed that the

South now employs more than 11,000 professional chemists. Of these 1,042 were employed in textile finishing and manufacturing. Thus, the wet processing firms which locate in the region will find that their operations are not strange to the area.

Raw Materials—The important role of petrochemicals in manufacture of synthetic fibers, textile chemicals and other products used in the textile industry is of special interest in industry location surveys. It is well known, of course, that the center of petrochemical development is in the Southwest —Texas and Louisiana. Thus, a company which intends to utilize raw materials from the West in the manufacture of products for delivery to Eastern markets find that a site in the middle South is extremely attractive.

A good example is Chemstrand Corporation which made exhaustive site studies several years ago. This company requires petrochemicals in large quantities and sells fibers to established mills in textile centers in the South and East. The decision was made to locate one plant at Decatur, Alabama and another at Pensacola, Florida. Both units were thus situated *between* the raw material source and the final market.

Transportation—A glance at any rail, highway or airline map will indicate that the South is covered by an extensive transportation network. This is made possible by the more or less uniform geography of the area. There are no extreme mountain ranges, deserts or other obstacles to growth throughout the area.

In order to serve new industries locating in the region the railroads of the South have conducted an extensive modernization program in recent years. From 1946 through 1952 Southern rail systems invested $579,809,002 in new roads. During the past year they have spent more than $90 million on such improvements.

Expenditures on new equipment have been even more impressive. From 1946 to 1952 the rail lines in the South invested $1,246,507,185 in new equipment. More than $200,000,000 was invested during the past year. These expenditures covered 3,921 locomotives; 39,164 box cars; 101,394 special freight cars; 1,238 passenger cars. Moreover, nearly 14,000 miles of new rails were installed and new signalling equipment was placed on 5,161 miles of track.

When it is considered that great investments have also been made in port facilities, inland waterways, trucking facilities and super highways, it is apparent that Southern transportation systems are closely geared to industrial development and future plant expansion.

Other Factors—Those who make exhaustive studies of other industrial location factors such as taxes, electric power, financing, security against enemy attack, and community attitudes will find similar benefits in the South. The entire region is alert to the advantages of new industry and anxious to provide an environment in which business can prosper.

There are more than 100 agencies in the South which offer advice and information to those considering the location of a business in the area. The chief coordinating organization is the SOUTHERN ASSOCIATION OF SCIENCE AND INDUSTRY, a non-profit, non-political group established in 1941. SASI currently conducts a program involving ten major points:

1. PROMOTION—A continuation of intensive efforts to acquaint people everywhere with the progressive trend in the South and the opportunities that exist here.

2. EXPLORATION—More extensive studies of the resources of the South, particularly minerals and water.

3. TRANSPORATION — Further improvement of means for transporting industrial products and raw materials, including port facilities, pipelines, air, rail and highway services.

4. WASTES—Greater utilization of industrial wastes and consequent minimizing of air and stream pollution.

5. EDUCATION—Constant efforts to improve the entire educational structure, particularly with regard to advanced scientific training.

6. RESEARCH—Wider use of existing research facilities and construction of new laboratories where needed.

7. UTILITIES—Further expansion of facilities for providing industries with electric power, natural gas, and other services.

8. ATOMIC ENERGY—A strong effort to apply atomic energy in Southern industry, especially with regard to use of radioisotopes.

9. MARKETING — Improvement in the advertising, selling, and distributing of the products manufactured in the region.

10. COORDINATION——A general effort to coordinate the efforts of the hundreds of groups working to promote Southern progress in order to eliminate duplication and focus attention on neglected fields.

SASI maintains a central research office in Atlanta at 5009 Peachtree Road. This office will be happy to assist industries interested in locating in the region.

A. P. Black

SOUTHERN SOURCES OF SUPPLY

CHEMICALS — DYESTUFFS — MACHINERY — SERVICES

This listing was compiled from letters received from advertisers in the American Dyestuff Reporter in response to our request. The information published as submitted, can be considered accurate.

ALCO OIL AND CHEM CORP, John B Winkler, So Rep, Trenton Ave & Wm St, Phila 34, Pa

ALLIANCE COLOR AND CHEMICAL CO, So Rep, Blackman-Uhler Co, Div of The Andover Co, Spartanburg, S C, **182 Exell St, Tel 8195; Plant, Camp Croft, Tel 8179. Reps:** Rock Hill, S C, **871 Sumter Ave, Tel 2852, P C Blackman.** Spartanburg, S C, **Forest Ave, Tel 21756, W B Uhler; 1279 Brentwood Dr, Tel 20251, C H Ratterree.** Greenville, S C, **115 Dellwood Dr, Tel 36966, E R Roper.** Greensboro, N C, **3415 Canterbury St, Tel 21920, H N McGuire.** LaGrange, Ga, **PO Box 486, Tel 5040, John Ferguson.** Trion, Ga, **Joe Gaffney**

AMALGAMATED CHEM CORP, Southern Div, Greenboro, N C, **1819 Spring Garden St, Tel 8691, R A Bruce, V P**

AMERICAN ANILINE PRODUCTS, INC, Charlotte, N C, **1500 Hutchison Ave, J H Orr, Mgr; G R Howard, Tech Advisor; R H Nuttall, W D Livingston, G Rogers, J C Steele, R Taylor, M West.** Chattanooga, Tenn, **4001 Rossville Blvd, J T Bohannon, Mgr; C W Ordway, Tech Dir; C O Starnes, Miss E M Headrick.** Columbus, Ga, **Room 403 Murrah Bldg, R W Freeze, Mgr; C W Angline**

AMERICAN CYANAMID CO, Dyestuff Dept, Charlotte 1, N C, **3333 Wilkinson Blvd, Tel 2-7721, J E Moore, Mgr**

AMERICAN CYANAMID CO, Textile Resin Dept, So Regional Br Off, Charlotte 1, N C, **3333 Wilkinson Blvd, R W Angstadt, So Sls Mgr; W C Comer Jr, J A Franklin, T B Spence, J B Tatum, C N Whitesides**

APEX CHEMICAL CO, INC, Charlotte 4, N C, **1815 Park Dr, Tel 3-8260, John E Galarde**

ARMOUR AND CO, Birmingham, Ala Dist, **Box 2030, Tel 37225, O L Ford, Dist Mgr; J M Graham, Atlanta, Ga, Tel Emerson 6314; W J Johnson, Birmingham, Ala, Tel 54-5082; Slsmen.** Charlotte, N C Dist, **816 Liberty Life Bldg, Tel 22128, R J Hurt, Dist Mgr; W C Perry, Norfolk, Va, Tel 1685-M; C G Swaim, 15 Hege Dr, Lexington, N C, Tel 2619; H H Wise, Durham, N C, Tel 7-7288; Slsmen.** Huntington, W Va, Dist, **Rm 601 Chesapeake & Ohio Bldg, Tel 22016, J N Nuckols, Dist Mgr; P S Vaughan, Tel Huntington 2-5102; T W Rush, 1376 Montezuma St, Pittsburgh, Pa, Tel Highland 1-5069; W C Perry, Norfolk, Va, Tel 1685; Slsmen.** Jacksonville, Fla Dist, **1287 Forsyth, Tel 45327; C F Hutchison, Dist Mgr; M J Callaghan, Tel Jacksonville 6-1731; W M Ray, 4141 NW 5th Ave, Miami, Tel 84-6683, Slsmen**

ARNOLD HOFFMAN & CO, INC, Charlotte, N C, **2130 N Tryon St, Tel 5-7336, John H Graham, Lowell A Shive, Dwight L Turner, Wm F Kennady, C J Dulin, Gordon Watt, Philip L Lavoie, Willard L Mills**

ATLANTIC CHEMICAL CORP, Salisbury, N C, **PO Box 1412. James M Myers.** Augusta, Ga, **814 Russell St, Brackett B Fernald.** Danville, Va, **531 Worsham St, A C Sizemore**

ATLANTIC REFINING CO, THE, Charlotte, N C, **1112 S Blvd, Tel 5-3741, M G Davis, Reg Sls Mgr; W E Smith, Petrochem Sls Eng'r**

ATLAS ELECTRIC DEVICES CO. Charlotte 7, N C, **c/o Slaughter Machinery Co, PO Box 6072, Mrs V H Slaughter, Edwin F Slaughter, Marshall Powell, M D Strong.** Marietta, Ga, **c/o Slaughter Machinery Co. 300 S Woodland Dr, Tel 2-336-M, J Fred Slaughter**

AUGUSTA CHEMICAL CO, Augusta Ga

BARIUM REDUCTION CORP, South Charleston, W Va

BECCO SALES CORP, Charlotte, N C, **PO Box 296, J R Hopkins, D S Quern,** Chamblee, Ga, **2545 Candler Rd, F X Nerney.** Skyland, N C, **Box 61, J F Whalen**

BELLE CHEM CO, Charlotte, N C, **2300 N Brevard, Tel 3-2809, W B Carroll, Jr, 336 Ridgewood Ave, Tel 4-9795.** Salisbury, N C, **608 Catawba Rd, Tel 2019XJ, John C Thomas**

BERKSHIRE COLOR & CHEM CO, Charlotte, N C, **4511 Fenwick Ct, Ralph E Elwell**

BIRCH BROS INC, Greenville, S C, **Crescent Ave, Tel 5-5926, John C Cosby**

BRYANT CHEM CORP, Spartanburg, S C, 1052 Otis Blvd, Tel 2-3555, John W Bryant. La Grange, Ga, **Box 486, Tel 5040, John Ferguson**

BURKART-SCHIER CHEM CO, Chattanooga, Tenn, **C A Schier, A S Burkart, W A Bentel, W J Kelly, Jr, Geo S McCarty, A J Kelly, J A Burkart, D H Gunther, T A Martin, Lawrence Newman, C V Day, R E Goins, E F Jurczak.** Nashville, Tenn, **H V Wells, John T Pitt, J T Hill, G L Vivrett, Lyman W Hodge.** Knoxville, Tenn, **Phil H Swann, L W Maddux, Darden Newman, Chas Day.** Birmingham, Ala, **3520 Cliff Rd, Jas A Brittain.** Tryon, N C, **PO Box 1181, O G Edwards**

BURLINGTON ENGINEERING COMPANY, INC, Graham, N C, **Tel 6-4478, J Saunders Williamson, Pres; E H Williamson, V P; Walter J Newcomb, Sec and Sls Mgr; D L Lomax, Engineer; Dr J D Milbourne, 7610 34th Ave, Jackson Hgts 72, N Y, Sales Consultant and Chf Chemist**

BUTTERWORTH, H W & SONS COMPANY, Charlotte 2, N C, 1211 Johnston Bldg, J Hill Zahn, Mgr; C Eugene Hunter, Jr, Jas E Butterworth Jr

CARBIC COLOR & CHEMICAL COMPANY, Selling Agt, Carbic Moss Corp, Charlotte, N C, **2511 Lucena St, Dyer S Moss, Pres; Deward H Grayson, So Mgr; Wm H Jones; Wm B Lavendar; Raymond W Hargrove**

CARBIC-MOSS CORP, Charlotte, N C, **2511 Lucena St, Dyers S Moss, Pres; Edward H Grayson, So Mgr; Wm H Jones, Wm B Lavendar, Raymond H Hargrove.** Columbus Ga, **Thomas A Davis, Dist Mgr**

CARBIDE & CARBON CHEMS CO, Cincinnati 6, Ohio, **2506 May St, Tel Avon 4450, E D Norton So Div Mgr; R G Kelso, Dist Mgr; H H Noren, Asst Dist Mgr; B W Hurley, L S Kendall, Tech Reps Cincinnati Dist.** Charlotte 2, N C, **1213 Liberty Life Bldg, Tel 4-4107, B A Gustin, Jr, Dist Mgr; D H Early, R W Halley, W E Rixon, T J Hamilton, 6356 Manor Lane So Miami 43, Fla, Tel 67-5181, Tech Reps, Charlotte, N C Dist.** Atlanta 3, Ga, **807 Bona Allen Bldg, Tel Lamar 5081, J B Harlow, Dist Mgr; J T Fox, J W Walter, A P Chavent, 4926 Montegut Dr, New Orleans, La, Tel Bywater 4501, Tech Reps Atlanta Dist.** Indianapolis 4, Ind, **1408 Circle Tower Bldg, 5 Market St, Tel Market 5548, R G Metz, Dist Mgr; J W Locher, Tech Rep, Indianapolis Dist**

CHARLOTTE CHEMICAL LABORATORIES, Charlotte, N C, **1122 South Blvd**

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